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Figure 2A

SEQ ID NO : 3

Complete genome sequence of bacteriophage 77

1	gatcaaaata	cttggggaac	ggttagggag	taaacttcgc	gataatttta	aaaattcatg
61	tataaccccc	ctcttataac	cattttaagg	caggtgatga	aatggagatt	atagtcgatg
121	aaaatttagt	gcttaaagaa	aaagaaaggc	tacaagtatt	atataaagac	atacctagca
181	ataaattaaa	agtagttgat	ggtttaatta	ttcaagcagc	aaggctacgt	gtaatgcttg
241	attacatgtg	ggaagacata	aaagaaaaag	gtgattatga	tttattttact	caatctgaaa
301	aggcgccacc	atatgaaagg	gaaagaccag	tagccaaact	atttaatgct	agagatgctg
361	catatcaaaa	aataatcaaa	caattatcgg	atttattgcc	cgaagagaaa	gaagacacag
421	aaacgccatc	tgatgattac	ctatgattag	taataaatac	gttgatgaat	atataaattt
481	gtggaaacaa	ggaaagataa	ttttaaataa	agaaagaatt	gatctcttta	attatctaca
541	aaaacatata	tattcacgag	atgatgtata	ttttgatgaa	cagaaaatcg	aggattgtat
601	caaattttatt	gaaaaatggg	attttccaac	attaccattt	caaagggtta	tcatagctaa
661	tatatttctt	atagataaaa	atacagatga	agctttcttt	acagaatttg	ctatttttcat
721	gggacgtgga	ggcgggaaaa	acgggtcta	aagtgtctatt	agtgattttc	tttctacgcc
781	cttacacgga	gttaaagaat	atcacatctc	cattgttgct	aatagtgaag	atcaagcaaa
841	aacatcgttt	gatgaaatca	gaaccgtttt	aatggataac	aaacgaaata	agacgggtaa
901	aacgccaaaa	gctccttatg	aagttagtaa	agcaaaaata	ataaacctgt	caactaaatc
961	ggttatttga	tataacacat	caaacacaaa	aaccaaagac	ggtggacgtg	aggggtgtgt
1021	tattttttgat	gaaattcatt	atttctttgg	tcctgaaatg	gtaaacgtca	aacgtgggtg
1081	attaggtaaa	aagaaaaata	gaagaacgtt	ttatataagt	actgatgggt	ttgttagaga
1141	gggttatatc	gatgcaatga	agcacaaaat	tgcaagtgtg	ttaagtggca	aggttaaaaa
1201	tagtagattg	tttgcttttt	attgtaagtt	agacgatcca	aaagaagttg	atgacagaca
1261	gacgtgggaa	aaggcgaacc	caatgttaca	ttaaccgtta	tcagaatacg	ctaaaacact
1321	gctaagcacg	attgaagaag	aatataacga	tttaccattc	aaccgttcaa	ataagcccga
1381	attcatgact	aagcgaatga	atttgcttga	agttgacctt	gaaaaagtaa	tagcaccatg
1441	gaaagaaata	ctagcgacta	atagagagat	accaaattta	gataatcaaa	tgtgtatttg
1501	tggtttagac	tttgcaaaca	ttcgagattt	tgcaagtgtg	gggctattat	tccgaaaaaa
1561	cgatgattac	atttgggttag	gacattcgtt	tgtaagacaa	gggttttttg	atgatgtcaa
1621	attagaacct	cctattaaag	aatgggaaaa	aatgggatta	tgaccatttg	tcgatgatga
1681	tgtcattgaa	attgaatata	tagttgattg	gttttttaag	gctagagaaa	aatatgggct
1741	tgaaaaagtc	atagctgata	attatagaac	tgatattgta	agacgtgcgt	ttgaggatgc
1801	tggcataaaa	cttgaagtac	ttagaaatcc	aaaagcaata	catggattac	ttgcaccacg
1861	tatcgataca	atgtttgcga	aacataacgt	aatatatgga	gacaatcctt	tgatgcgttg
1921	gtttactaat	aatgttgctg	taaaaatcaa	gccggatgga	aataaagagt	atatcaaaaa
1981	agatgaagtc	agacgtaaaa	cggatggatt	catggctttt	gttcacgcat	tatatagagc
2041	agacgatata	gtagacaaag	acatgtctaa	agcgcttgat	gcattaatga	gtatagattt
2101	ctaatagagg	aggtgagaca	tgagtattct	agaaaagata	tttaaaacta	ggaaagatat
2161	aacatatatg	cttgatttag	atatgataga	agatctatca	caacaagcgt	atgtgaaacg
2221	tttagcgatt	gatagttgta	ttgaatttgt	tgcgcgagct	gtcgtctaaa	gtcatttttaa
2281	agtattggaa	ggtaatagaa	ttcaaaaagaa	tgatgtttac	tacaagttaa	atataaaaacc
2341	aaatactgac	ttatcaagcg	atagtttttg	gcaacaagtt	atatataaac	taattttatga
2401	taacgaggtt	ttaatcgtag	taagtgcag	caaagaatta	cttatcgtag	atagctttta
2461	cagagaagag	tacgctttgt	atgatgatat	attcaaagat	gtaacggtta	aagattatac
2521	ttatcaacgt	actttcacaa	tgcaagaggt	catatattta	aagtacaaca	acaataaagt
2581	gacacacttt	gtagaaaagtc	tattcgaaga	ttacgggaaa	atattcggaa	gaatgatagg
2641	tgcacaatta	aaaaactatc	aaataagagg	gattttgaaa	tctgcctcta	gcgcatatga
2701	cgaaaagaat	atagaaaaat	tacaagcgtt	cacaaataaa	ttattcaata	cttttaataa

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Figure 2B

2761	aatcaacta	gcaatcgcg	ctttgataga	aggttttgat	tatgaggaat	tatctaattgg
2821	tggttaagaat	agtaacatgc	ctttttctga	attgagtga	ctaagtgaag	atgcaataaa
2881	aatgtttg	ttgatgattg	gtatacctcc	aggtttgatt	tacggagaaa	cagctgattt
2941	ggaaaaaac	acgcttgat	ttgagaagtt	ctgtttaaca	cctttattaa	aaaagattca
3001	gaacgaatta	aacgcgaaac	tcataacaca	aagcatgtat	ttgaaagata	caagaataga
3061	aattgtcgg	gtgaataaaa	aagaccact	tcaatatgct	gaagcaattg	acaaacttgt
3121	aagttctggt	tcattttacaa	ggaatgaggt	gcggattatg	ttaggtgaag	aaccatcaga
3181	caatcctgaa	ttagacgaat	acctgattac	taaaaactac	gaaaaagcta	acagtgggtga
3241	aatgatgaa	aaagaaaaag	atgaaaacac	tttgaaaggt	ggtgatgaag	atgaaagcgg
3301	agattaaagg	cgtcatcggt	tccaacgaag	ataaatgggt	ttacgaaatg	cttgggtatgg
3361	attcgacttg	tcctaaagat	gttttaacac	aactagaatt	tagtgatgaa	gatgttgata
3421	ttataattaa	ctcaaattggt	ggtaacctag	tagctggtag	tgaaatatat	acacatttaa
3481	gagctcataa	aggcaaagt	aatgttcgta	tcacagcaat	agcagcaagt	gcggcatcgc
3541	ttatcgcaat	ggctgggtgac	cacatcgaaa	tgagtcgggt	tgctagaatg	atgattcaca
3601	atccttcaag	tattgcgcaa	ggagaagtga	aagatctaaa	tcagtctgca	gaaacattag
3661	aacatgttgg	tcaaataatg	gctgaggcat	atgcgggttag	agctggtaaa	aacaaacaag
3721	aacttataga	aatgatggct	aaggaaacgt	ggctaaatgc	tgatgaagcc	attgaacaag
3781	gttttgcgga	tagtaaaatg	tttgaaaacg	acaatatgca	aattgtagca	agcgatacac
3841	aagtgttatc	gaaagatgta	ttaaatcgtg	taacagcttt	ggtaagtaaa	acgccagagg
3901	ttaacattga	tattgacgca	atagcaaata	aagtaattga	aaaaataaat	atgaaagaaa
3961	aggaatcaga	aatcgatggt	gcagatagta	aattatcagc	aaatggattt	tcaagattcc
4021	ttttttaata	caaaaatagg	aggtcataaa	atgactataa	atttatcgga	aacattcgca
4081	aatgcgaaaa	acgaatttat	taatgcagta	aacaacgggtg	aaccgcaaga	aagacaaaat
4141	gaattgtacg	gtgacatgat	taaccaacta	tttgaagaaa	ctaaattaca	agcaaaagca
4201	gaagctgaaa	gagtttctag	tttacctaaa	tcagcacaaa	ctttgagtg	aaaccaaaaga
4261	aatttcttta	tgatatcaaa	taagagtgtt	ggatataaag	aagaaaaact	tttaccagaa
4321	gaaacaattg	atagaatctt	cgaagattta	acaacgaatc	atccattatt	agctgactta
4381	ggtattaaaa	atgctgggtt	gcgtttgaag	ttcttaaaat	ccgaaacttc	tggcgtggct
4441	gtttggggta	aaatctatgg	tgaaattaaa	ggtcaattag	atgctgcgtt	cagtgaagaa
4501	acagcaattc	aaaataaatt	gacagcggtt	gttgttttac	caaaagattt	aaatgatttt
4561	ggtcctgcgt	ggattgaaag	atgtgttcgt	gttcaaatac	aagaagcatt	tgcagtggcg
4621	cttgaaactg	cggttcttaaa	aggtagtggt	aaagaccaac	cgattgggtt	aaaccgtcaa
4681	gtacaaaaag	gtgtatcggt	aactgatgg	gcttatccag	agaaagaaga	acaagggtacg
4741	cttacatttg	ctaataccgcg	cgctacgggt	aatgaattga	cgcaagtgtt	taaataccac
4801	tcaactaacg	agaaaggtaa	atcagtagcg	gttaaaggta	atgtaacaat	ggttggtaat
4861	ccgtccgatg	cttttgaggt	tcaagcacag	tatacacatt	taaatgcaaa	tggcgtatat
4921	gttactgctt	taccatttaa	tttgaatgtt	attgagtcta	cagttcaaga	agcaggtaag
4981	gttttaacgt	acgttaaagg	tctatatgat	ggttatattag	ctgggtggat	taatgttcag
5041	aaatttaaa	aaacacttgc	gttagatgat	atggatttat	acactgcaaa	acaatttgct
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5161	aaaccagctt	tagaagatac	cgaagaaaca	ctataaaaat	ttatgaggtg	ataaaatgg
5221	gaaatttaaa	gttggttagag	aatttaaaaga	catagagcac	aatcaacaca	agtacaaagt
5281	aggggagttg	tatccagctg	aagggtataa	caatcctcgt	gttgaattgt	tgacaaatca
5341	aatcaaaaat	aagtacgaca	aagtttatat	cgtaccttta	gataagctga	caaaaacaaga
5401	attattagaa	ctatgcgaat	cattacaaaa	aaaagcgtct	agttcaatgg	ttaaaagtga
5461	aatcatcgac	ttattgaatg	gtgaagacaa	tgacgattga	tgatttgctt	gtcaaattta
5521	aatcacttga	aaagattgac	cataattcag	aggatgagta	cttaaagcag	ttgttaaaaa
5581	tgtcgtacga	gcgtataaaa	aatcagtgcg	gagtttttga	attagagaat	ttaataggtc
5641	aagaattgat	acttatacgc	gctagatatg	cttatcaaga	tttattagaa	cacttcaacg
5701	acaattacag	acctgaaata	atagattttt	cgttatctct	aatggaggtg	tcagaagatg

Figure 2C

5761	aagaaagtgt	ttaagaaacc	tagaattaca	actaaacggt	taaatacgcg	tgttcatttt
5821	tataagtata	ctgaaaataa	tggtccagaa	gctggagaaa	aagaagaaaa	attattatat
5881	agctgttggg	cgagtattga	tggtgtctgg	ttacgtgaat	tagaacaagc	tatctcaaac
5941	ggaacgcaaa	atgacattaa	attgtatatt	cgtgatccgc	aaggtgatta	tttaccaggt
6001	gaagaacatt	atcttgaaat	tgaatcaaga	tatttcaaaa	atcgtttgaa	tataaagcaa
6061	gtatcaccag	at ttggataa	taaagacttt	attatgattc	gcgaggata	tagttcatga
6121	gtgtgaaagt	gacagggtgat	aaagcattag	aaagagaatt	agaaaaacat	tttggcataa
6181	aagagatggt	aaaagttcaa	gataaggcgt	taatagctgg	tgctaaggta	attggtgaag
6241	aaataaaaaa	acaactcaaa	ccttcagaag	actcaggagc	actgattagt	gagattgggtc
6301	gtactgaacc	tgaatggata	aaggggaaac	gtactgttac	aattaggtgg	cgtgggcctt
6361	ttgaacgatt	tagaatagta	catttaattg	aaaatgggtca	tgttgagaaa	aagtcaggaa
6421	aattttgtaa	acctaaagct	atgggtggga	ttaatagagc	aataagacaa	gggcaaaata
6481	agtatttttg	gacgctaaaa	agggagtga	aaaaattgtg	attgatattt	tgtacaaagt
6541	tcatgaagt	attagtcaag	acagaattat	tagagagcac	gtaaatatca	ataatattaa
6601	gttcaataaa	taccctaata	taaaagatac	tgatgtacct	tttattgtta	ttgacgatata
6661	cgacgaccca	atacctacaa	cttatactga	cggagatgag	tgtgcatata	gttatattgt
6721	ccaaatagat	gtttttgtta	agtacaatga	tgaatataat	gcgagaatca	taagaaataa
6781	gatatactaat	cgcattcaaa	agttattatg	gtctgaacta	aaaatgggaa	atgtttcaaa
6841	tggaaaaccg	gaatatatag	aagaatttaa	aacatataga	agctctcgcg	tttacgaggg
6901	cattttttat	aaggaggaaa	attaaatggc	agtaaaacat	gcaagtgcgc	caaaggcgta
6961	tattaacatt	actgggtttag	gtttcgctaa	attaacgaaa	gaaggcgcg	aattaaaata
7021	tagtgatatt	acaaaaacaa	gaggattaca	aaaaattggg	gttgaaactg	gtggagaact
7081	aaaaacagct	tatgctgatg	gcggtccaat	tgaatcaggg	aatacagacg	gagaaggtaa
7141	aatctcatta	caaatgcatg	cgttccctaa	agagattcgc	aaaattgttt	ttaatgaaga
7201	ttatgatgaa	gatggcggtt	acgaagagaa	acaaggtaaa	caaaacaatt	acgtagctgt
7261	atgggttcaga	caagagcgta	aagacgggtac	atttagaaca	gttttattac	ctaaagttat
7321	gtttacaaat	cctaaaatcg	atggagaaac	ggctgagaaa	gattgggatt	tctcaagtga
7381	agagggttga	ggtgaggcac	ttttcccttt	agttgataat	aaaaagtcag	tacgtaagta
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7621	agcattaaaa	cacttaaagt	tggcgacaca	tacgatttaa	atgttgtagt	agagccatct
7681	aatcaaagta	agttattgaa	atacacaaca	gatcaaacga	atattgtatc	aatcaatagt
7741	gatgggtcaag	ttactgcgga	agcacaaggc	attgctacgg	ttaaagcaac	agttggtaat
7801	atgagtgaca	ctataacaat	aaatgtagaa	gcataagagg	gggcaacccc	tctattttat
7861	ttgaaaataa	ggagagtatt	ataaaatggc	aaaattaaaa	cgtaacatta	ttcaattagt
7921	agaagatcca	aaagcaaatg	aaattaaatt	acaaacgtac	ttaacaccac	acttcatttc
7981	at ttgaaatt	gtatacgaag	caatggattt	aatcgatgat	attgaggacg	aaaatagcac
8041	gatgaagcca	agagaaatcg	ctgacagatt	gatggatatg	gttgtaaaaa	tttacgataa
8101	ccaattcaca	gttaaagacc	taaaagaacg	tatgcatgca	cctgatggaa	tgaatgcact
8161	tcgtgaacaa	gtgattttca	ttactcaagg	tcaacaaact	gaggaaacta	gaaattttat
8221	ccagaacatg	aaataaagcc	tgaagattta	acataataag	caatgttgaa	aaatatggat
8281	actctcatga	tggacttaat	tgaaaatggg	aaagacgcta	acgaagtttt	aaaaatgcca
8341	tttcattatg	tgctttccat	atatcaaaat	aaaaataatg	acattttctga	agaaaaagca
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8461	ttttagaaag	gaggtaaaaa	atgggagaaa	gaataaaaagg	tttatctata	ggtttgatt
8521	tagatgcagc	aaatttaaat	agatcatttg	cagaaatcaa	acgaaacttt	aaaactttta
8581	attctgactt	aaaattaaca	ggcaacaact	tcaaatatac	cgaaaaatca	actgatagtt
8641	acaaacaaag	gattaaagaa	cttgatggaa	ctatcacagg	ttataagaaa	aacggtgatg
8701	at tttagccaa	gcaatatgac	aaggatctc	aagaacaggg	cgaaaaacagt	gcgaagctc



Figure 2D

8761	aaaagttacg	acaagaatat	aacaaacaag	caaatgagct	gaattatttta	gaaagagaat
8821	tacaaaaaac	atcagccgaa	tttgaagagt	tcaaaaaagc	tcaagttgaa	gctcaaagaa
8881	tggcagaaaag	tggctgggga	aaaaccagta	aagtttttga	aagtatggga	cctaaattaa
8941	caaaaatggg	tgatggttta	aaatccattg	gtaaagggtt	gatgattggg	gtaactgcac
9001	ctgttttagg	tattgcagca	gcatcaggaa	aagcttttgc	agaagttgat	aaagggttag
9061	atactgttac	tcaagcaaca	ggcgcaacag	gcagtgaatt	aaaaaaattg	cagaactcat
9121	ttaaagatgt	ttatggcaat	tttccagcag	atgctgaaac	tgttggtgga	gttttaggag
9181	aagttaatac	aagggttaggt	tttacaggta	aagaacttga	aaatgccaca	gagtcattct
9241	tgaaattcag	tcatataaca	ggttctgacg	gtgtgcaagc	cgtacagtta	attaccctg
9301	caatgggcga	tgcaggatc	gaagcaagt	aatatcaaag	tgttttggat	atggtagcaa
9361	aagcggcgca	agctagtggg	ataagtgtg	atacattagc	tgatagtatt	actaaatacg
9421	gcgctccaat	gagagctatg	ggctttgaga	tgaaagaatc	aattgcttta	ttctctcaat
9481	gggaaaagtc	aggcgttaat	actgaaatag	cattcagtgg	tttgaaaaaa	gctatatcaa
9541	attggggtaa	agctggtaaa	aaccaagag	aagaatttaa	gaagacatta	gcagaaattg
9601	aaaagacgcc	ggatatagct	agcgcaacaa	gttttagcgat	tgaagcattt	ggtgcaaagg
9661	caggctcctga	tttagcagac	gctattaaag	gtggctcgctt	tagttatcaa	gaatttttaa
9721	aaactattga	agattcccaa	ggcacagtaa	accaaacatt	taaagattct	gaaagtggct
9781	ccgaaagatt	taaagtagca	atgaataaat	taaaattagt	aggtgctgat	gtatgggctt
9841	ctattgaaag	tgcgtttgct	cccgtaatgg	aagaattaat	caaaaagcta	tctatagcgg
9901	ttgattgggt	ttccaattta	agtgatgggt	ctaaaagatc	aattgttatt	ttcagtggta
9961	ttgctgctgc	aattggtcct	gtagtttttg	ggtaggtgc	atttataagt	acaattggca
10021	atgcagtaac	tgtattagct	ccattgtag	ctagtattgc	aaaggctggg	ggattgatta
10081	gttttttatc	gactaaagta	cctatattag	gaactgtctt	cacagcttta	actgggtccaa
10141	ttggcattgt	attaggtgta	ttggctgggt	tagcagtcgc	atttacaatt	gcttataaga
10201	aatctgaaac	atttagaaat	tttgtaaatg	gtgcaattga	aagtgttaaa	caaacattta
10261	gtaattttat	tcaatttatt	caacctttcg	ttgattctgt	taaaaacatc	tttaaacaa
10321	cgatatcagc	aatagttgat	ttcgcaaaag	atatttggag	tcaaatcaat	ggattcttta
10381	atgaaaacgg	aatttccatt	gttcaagcac	ttcaaaatat	atgcaacttt	attaaagcga
10441	tatttgaatt	tattttaaat	tttgtaatta	aaccaattat	gttcgcgatt	tggcaagtga
10501	tgcaatttat	ttggccggcg	gttaaagcct	tgattgtcag	tacttgggag	aacataaaag
10561	gtgtaataca	aggtgcttta	aatatcatac	ttggcttgat	taagttcttc	tcaagtttat
10621	tcgttggtga	ttggcgagga	gtttgggacg	ccgttggtgat	gattcttaaa	ggagcagttc
10681	aattaatttg	gaatttagtt	caattatggt	ttgtaggtaa	aatacttggg	gttggttaggt
10741	actttggcgg	gttgctaaaa	ggattgatag	caggaatttg	ggacgtaata	agaagtatat
10801	tcagtaaadc	tttatcagca	atttggaatg	caacaaaaag	tatttttgga	tttttattta
10861	atagcgtaaa	atcaattttc	acaaatatga	aaaattgggt	atctaatact	tggagcagta
10921	tccgtacgaa	tacaatagga	aaagcgcagt	cattatttag	tggcgtcaaa	tcaaaattta
10981	ctaatttatg	gaatgcgacg	aaagaaattt	ttagtaattt	aagaaattgg	atgtcaaata
11041	tttggaattc	cattaaagat	aatacggtag	gaattgcaag	ccgtttatgg	agtaaggtag
11101	gtggaatttt	cacaaatatg	cgcgatggct	tgagttccat	tatagataag	attaaaagtc
11161	atatcggcgg	tatggtaagc	gctattaaaa	aaggacttaa	taaattaatc	gacggtttaa
11221	actgggtcgg	tggttaagtg	ggaatggata	aaatacctaa	gttacacact	ggtacagagc
11281	acacacatac	tactacaaga	ttagttaaga	acggtaagat	tgcacgtgac	acattcgcta
11341	cagttgggga	taaggagcgc	ggaaatgggtc	caaatgggtt	tagaaatgaa	atgattgaat
11401	tccctaacgg	taaacgtgta	atcacaccta	atacagatac	taccgcttat	ttacctaaag
11461	gctcaaaaag	atacaacggg	gcacaaactt	attcaatggt	aaacgggaacg	cttccaagat
11521	ttagtttagg	tactatgtgg	aaagatatta	aatctggtgc	atcatcgcca	tttaactgga
11581	caaaagataa	aataggtaaa	ggtaccaa	ggcttggcga	taaagttggc	gatgttttag
11641	attttatgga	aaatccaggc	aaacttttaa	attatatact	tgaagctttt	ggaattgatt
11701	tcaattcttt	aactaaaggt	atgggaattg	caggcgacat	aacaaaagct	gcatggtcta



Figure 2E

11761	agattaagaa	aagtgtact	gattggataa	aagaaaat	agaagctatg	ggcgggtggcg
11821	atthagtcgg	cggaatatta	gaccctgaca	aaattaatta	tcattatgga	cgtaccgcag
11881	cttataccgc	tgcaactgga	agaccatttc	atgaaggtgt	cgattttcca	tttgtatatc
11941	aagaagttag	aacgccgatg	ggtggcgac	ttacaagaat	gccatttatg	tctgggtggt
12001	atggttaatta	tgtaaaaatt	actagtggcg	ttatcgatat	gctatttgcg	catttgaaaa
12061	acttttagcaa	atcaccacct	agtggcacga	tggtaaagcc	cggtgatggt	gttgggttaa
12121	ctggtaatac	cggatttagt	acaggaccac	atttacat	tgaaatgagg	agaaatggac
12181	gacattttga	ccctgaacca	tatttaagga	atgctaagaa	aaaaggaaga	ttatcaatag
12241	gtgggtggcgg	tgctacttct	ggaagtggcg	caacttatgc	cagtcgagta	atccgacaag
12301	cgcaaagtat	tttaggtggt	cgttataaag	gtaaatggat	tcatgaccaa	atgatgcgcg
12361	ttgcaaaacg	tgaaagtaac	taccagtcaa	atgcagtga	taactgggat	ataaatgctc
12421	aaagaggaga	cccatcaaga	ggattattcc	aaatcatcgg	ctcaactttt	agagcaaacg
12481	ctaaacgtgg	atatactaac	tttaataatc	cagtacatca	aggtatctca	gcaatgcagt
12541	acattgttag	acgatatggt	tggggtggtt	ttaaacgtgc	tggtgattac	gcatatgcta
12601	caggtggaaa	agtttttgat	ggttggtata	acttaggtga	agacggtcac	ccagaatgga
12661	ttattccaac	agatccagct	cgtagaaatg	atgcaatgaa	gattttgcat	tatgcagcag
12721	cagaagtaag	agggaaaaaa	gcgagtaaaa	ataagcgtcc	tagccaatta	tcagacttaa
12781	acgggtttga	tgatcctagc	ttattattga	aaatgattga	acaacagcaa	caacaaatag
12841	ctttattact	gaaaatagca	caatctaacg	atgtgattgc	agataaagat	tatcagccga
12901	ttattgacga	atacgctttt	gataaaaagg	tgaacgcgtc	tatagaaaag	cgagaaaagg
12961	aagaatcaac	aaaagtaaa	tttagaaaag	gaggaattgc	tattcaatga	tagacactat
13021	taaagtgaac	aacaaaacaa	ttccttggtt	gtatgtcgaa	agaggggttg	aaataccctc
13081	ttttaattat	gttttaaaaa	cagaaaatgt	agatggacgt	tcgggggtcta	tatataaagg
13141	gcgtaggctt	gaatcttata	gttttgatat	accttggtg	gtacgtaatg	actatttatc
13201	tcacaacggc	attaaaacac	atgatgacgt	cttgaatgaa	ttagtaaagt	tttttaacta
13261	cgaggaacaa	gttaaattac	aattcaaate	taaagattgg	tactggaacg	cttatttcga
13321	aggaccaata	aagctgcaca	aagaatttac	aatacctgtt	aagttcacta	tcaaagtagt
13381	actaacagac	ccttacaaat	attcagtaac	aggaaataaa	aatactgcga	tttcagacca
13441	agtttcagtt	gtaaatagtg	ggactgctga	cactccttta	attggtgaag	cccagacat
13501	taaaccatct	agttacttta	tgattactaa	aaatgatgaa	gattatttta	tgggttggtga
13561	tgatgaggta	accaaagaag	ttaaggatta	catgcctcct	gtttatcata	gtgagtttcg
13621	tgatttcaaa	ggttggacta	agatgattac	tgaagatatt	ccaagtaatg	acttaggtgg
13681	taagggtcggc	ggtgactttg	tgatatccaa	tcttggcgaa	ggatataaag	caactaattt
13741	tcctgatgca	aaaggttggg	ttggtgctgg	cacgaaacga	gggctcccta	aagcgatgac
13801	agattttcaa	attacctata	aatgtattgt	tgaacaaaaa	ggtaaagggtg	ccggaagaac
13861	agcacaacat	atztatgata	gtgatggtaa	gttacttgct	tctattgggt	atgaaaataa
13921	atatcatgat	agaaaaatag	gacatattgt	tgttacgttg	tataaccaa	aaggagaccc
13981	caaaaagata	tacgactatc	agaataaacc	gataatgtat	aacttgga	gaatcgttgt
14041	ttatatgcgg	ctcagaagag	taggtaataa	attttctatt	aaaacttgga	aatttgatca
14101	cattaaagac	ccagatagac	gtaaacctat	tgatatggat	gagaaagagt	ggatagatgg
14161	cggtaagt	tatcagcgtc	cagcttctat	catagctgtc	tatagtgcga	agtataacgg
14221	ttataagtgg	atggagatga	atgggttagg	ttcattcaat	acggagattc	taccgaaacc
14281	gaaaggcgca	agggatgtca	ttatacaaaa	aggtgattta	gtaaaaatag	atatgcaagc
14341	aaaaagtgtt	gtcatcaatg	aggaaccaat	gttgagcgag	aaatcgtttg	gaagtaatta
14401	tttcaatgtt	gattctgggt	acagtgaatt	aatcatacaa	cctgaaaacg	tctttgatac
14461	gacgggttaa	tggcaagata	gatatttata	gaaaggagat	gagagtgtga	tacatgtttt
14521	agatttttaac	gacaagatta	tagatttcct	ttctactgat	gaccttcct	tagttagagc
14581	gattcataaa	cgtaatgtta	atgacaattc	agaaatgctt	gaactgctca	tatcatcaga
14641	aagagctgaa	aagttccgtg	aacgacatcg	tgttattata	agggattcaa	acaaacaatg
14701	gcgtgaat	attattaact	gggttcaaga	tacgatggac	ggctacacag	agatagaatg



Figure 2F

14761	tatagcgtct	tatcttgctg	atataacaac	agctaaaccg	tatgcaccag	gcaaatttga
14821	gaaaaagaca	acttcagaag	cattgaaaga	tgtgttgagc	gatacagggt	gggaagtttc
14881	tgaacaaacc	gaatacgatg	gcttacgtac	tacgtcatgg	acttcttatc	aaactagata
14941	tgaagtttta	aagcaattat	gtacaaccta	taaaatgggt	ttagattttt	atattgagct
15001	tagctcta	accgtcaaag	gtagatatgt	agtactcaaa	aagaaaaaca	gcttattcaa
15061	aggtaaagaa	attgaatatg	gtaaagattt	agtcgggtta	actaggaaga	ttgatatgtc
15121	agaaatcaaa	acagcattaa	ttgctgtggg	acctgaaaat	gacaaagggg	agcgtttaga
15181	gctagttgtg	acagatgacg	aagcgcaaag	tcaattcaac	ctacctatgc	gctatatttg
15241	ggggatatat	gaaccacaat	cagatgatca	aaatatgaat	gaaacacgat	taagttcttt
15301	agccaaaaca	gagttaaata	aacgtaagtc	ggcagttatg	tcatatgaga	ttacttctac
15361	tgatttgga	gttacgtatc	cgcacgat	tatatcaatt	ggcgatacag	tcagagtaaa
15421	acatagagat	tttaaccgcg	cattgtatgt	agaggcagaa	gttattgctg	aagaatataa
15481	cataatttca	gaaaatagca	catatacatt	cggctcaacct	aaagagttca	aagaatcaga
15541	attacgagaa	gagtttaaca	agcgattgaa	cataatacat	caaaagttaa	acgataatat
15601	tagcaatatc	aacactatag	ttaaagatgt	tgtagatggg	gaattagaat	actttgaacg
15661	caaaatacac	aaaagtata	caccgccaga	aaatccagtc	aatgatatgc	tttggatatga
15721	tacaagtaac	cctgatgttg	ctgtcttgcg	tagatattgg	aatggtcgat	ggattgaagc
15781	aacaccaaat	gatgttgaaa	aattaggtgg	tataacaaga	gagaaagcgc	tattcagtga
15841	attaacaat	atTTTTatta	atTTtatctat	acaacacgct	agctTTTTgt	cagaagctac
15901	agaattactg	aatagcgagt	acttagtaga	taatgatttg	aaagcggact	tacaagcaag
15961	tttagacgct	gtgattgatg	tttataatca	aattaaaaat	aatttagaat	ctatgacacc
16021	cgaaactgca	acgattggtc	gggttggtaga	tacacaagct	ttatttcttg	agtatagaaa
16081	gaaattacaa	gatgtttata	cagatgtaga	agatgtcaaa	atcgccattt	cagatagatt
16141	taaattatta	cagtcacaat	acactgatga	aaaatataaa	gaagcgttgg	aaataatagc
16201	aacaaaattt	ggtttaacgg	tgaatgaaga	tttgcagtta	gtcggagAAC	ctaattgtgt
16261	taaatacagct	attgaagcag	ctagagaatc	cacaaaagaa	caattacgtg	actatgtaaa
16321	aacatcggac	tataaaacag	acaaagacgg	tattgttgaa	cgtttagata	ctgctgaagc
16381	tgagagaacg	actttaaaag	gtgaaatcaa	agataaagtt	acgttaaacg	aatatcgaaa
16441	cggattggaa	gaacaaaaac	aataactga	tgaccagtta	agtgatttgt	ccaataatcc
16501	tgagattaaa	gcaagtattg	aacaagcaaa	tcaagaagcg	caagaagctt	taaaatcata
16561	cattgatgct	caagatgatc	ttaaagagaa	ggaatcgcaa	gcgtatgctg	atgggtaaaat
16621	ttcgggaagaa	gagcaacgcg	ctatacaaga	tgctcaagct	aaacttgaag	aggcaaaaaca
16681	aaacgcagaa	ctaaaggcta	gaaacgctga	aaagaaagct	aatgcttata	cagacaacaa
16741	ggtcaaagaa	agcacagatg	cacagaggaa	aacattgact	cgctatgggt	ctcaaattat
16801	acaaaatggg	aaggaaatca	aattaagaac	tactaaagaa	gagtttaatg	caaccaatcg
16861	tacactttca	aatatattaa	acgagattgt	tcaaaatgtt	acagatggaa	caacaatcag
16921	atatgatgat	aacggagtgg	ctcaagcttt	gaatgtgggg	ccacgtggta	ttagattaaa
16981	tgctgataaa	attgatatta	acggtaatag	agaaataaac	cttcttatcc	aaaatatgcg
17041	agataaagta	gataaaaccg	atattgtcaa	cagtcttaat	ttatcaagag	aggggtcttga
17101	tatcaatggt	aatagaattg	gaattaaagg	cggtgacaat	aacagatatg	ttcaaataca
17161	gaatgattct	attgaactag	gtgggtattgt	gcaacgtact	tggagaggga	aacgttcaac
17221	agacgatatt	tttacgcgac	tgaaagacgg	tcacctaaaga	tttagaaata	acaccgctgg
17281	cggttcactt	tatatgtcac	atTTtggtat	ttcgacttat	attgatgggt	aagggtgaaga
17341	cgggtggttca	tctgggtacga	ttcaatgggtg	ggataaaaact	tacagtgata	gtggcatgaa
17401	tggtataaca	atcaattcct	atgggtgggtg	cgttgcaacta	acgtcagata	ataatcgggt
17461	tgttctggag	tcttacgctt	catcgaatat	caaaagcaaa	caggcaccgg	tgtatttata
17521	tccaaacaca	gacaaagtgc	ctggattaaa	ccgatttgca	ttcacgctgt	ctaatagcaga
17581	taatgcttat	tcgagtgcg	gttatattat	gtttgggtct	gatgagaact	atgattacgg
17641	tcggggtatc	aggttttcta	aagaaagaaa	taaaggctct	gttcaaattg	ttaatggacg
17701	atatgcaaca	ggtggagata	caacaatcga	agcagggtat	ggcaaattta	atatgctgaa



Figure 2G

17761	acgacgtgat	ggtaataggt	atattcatat	acagagtaca	gacctactgt	ctgtaggttc
17821	agatgatgca	ggagatagga	tagcttctaa	ctcaatttat	agacgtactt	attcggccgc
17881	agctaatttg	catattactt	ctgctggcac	aattgggcgt	tcgacatcag	cgcgtaaata
17941	caagttatct	atcgaaaatc	aatataacga	tagagatgaa	caactggaac	attcaaaagc
18001	tattcttaac	ttacctatta	gaacgtgggt	tgataaagct	gagtctgaaa	ttttagctag
18061	agagctgaga	gaagatagaa	aattatcgga	agacacctat	aaacttgata	gatacgtagg
18121	tttgattgct	gaagaggtgg	agaatttagg	attaaaagag	tttgtcacgt	atgatgacaa
18181	aggagaaatt	gaaggtatag	cgtatgatcg	tctatggatt	catcttatcc	ctgttatcaa
18241	agaacaacaa	ctaagaatca	agaaattgga	ggagtcaaag	aatgcaggat	aacaaacaag
18301	gattacaagc	taatcctgaa	tatacaattc	attattttatc	acaggaaatt	atgaggttaa
18361	cacaagaaaa	cgcgatgtta	aaagcgtata	tacaagaaaa	taaagaaat	caacaatgtg
18421	ctgaggaaga	gtaatcctta	gcactatttt	tatacaaaaa	tttaaggagg	tcattttaatt
18481	atggcaaaaag	aaattatcaa	caatacagaa	aggtttattt	tagtacaat	cgacaaagaa
18541	ggtacagaac	gtgtagtata	tcaagatttc	acaggaagtt	ttacaacttc	tgaaatgggt
18601	aaccatgctc	aagattttta	atctgaagaa	aacgctaaga	aaattgcgga	gacgttaaat
18661	ttgttatatc	aattaactaa	caaaaaacaa	cgtgtgaaag	tagttaaaga	agtagttgaa
18721	agatcagatt	tatctccaga	ggtaacagtt	aacactgaaa	cagtatgaaa	agctatgagt
18781	tagatactca	tagtctttat	tcttttagaa	agcgggtgta	ctgaattggg	gtggttcaaa
18841	aaacacgaac	atgaatggcg	catcagaagg	ttagaagaga	atgataaaac	aatgctcagc
18901	acactcaacg	aaattaaatt	agggtcaaaaa	acccaagagc	aagttaacat	taaattagat
18961	aaaaccttag	atgctattca	aaaagaaaaga	gaaatagatg	aaaagaataa	gaaagaaaat
19021	gataagaaca	tacgtgatat	gaaaatgtgg	gtgcttggtt	tagttgggac	aatatttggg
19081	tcgctaatta	tagcattatt	gcgtatgctt	atgggcatat	aagagagggtg	attaccatgt
19141	tcggattaaa	ttttggagct	tcgctgtgga	cgtgtttctg	gtttggtaag	tgtaagtaat
19201	agttaagagt	cagtgcctcg	gcactggcctt	tttatttttg	ataaaaaggag	caaacaaatg
19261	gatgcaaaaag	taataacaag	atacatcgta	ttgatcttag	cattagtaaa	tcaattctta
19321	gcgaacaaag	gtattagccc	aattccagta	gacgatgaaa	ctatatcatc	aataatactt
19381	actgtagtcg	ctttatatac	aacgtataaa	gacaatccaa	catctcaaga	aggtaaattg
19441	gcaaatcaaa	aattaaagaa	atataaagct	gaaaataagt	atagaaaagc	aacagggcaa
19501	gcgccaatta	aagaagtaat	gacacctacg	aatatgaacg	acacaaatga	tttagggtag
19561	gtggttgata	tatgttaatg	acaaaaaatc	aagcagaaaa	atggtttgac	aattcattag
19621	ggaacaatt	caaccagat	ggttggtatg	gatttcagtg	ttatgattac	gccaatatgt
19681	tcttttatgtt	agcgacaggc	gaaaggctgc	aaggtttata	tgcttataat	atcccgtttg
19741	ataataaagc	aaagattgaa	aaatatggctc	aaataattaa	aaactatgac	agctttttac
19801	cgcaaaaagt	ggatattgtc	gttttcccgt	caaagtatgg	tggcggagct	ggacacgttg
19861	aaattgttga	gagcgcaaat	ttaaatactt	tcacatcatt	tgggtcaaac	tggaacggta
19921	aaggttggac	taatggcgtt	gcgcaacctg	gttgggggtcc	tgaaactgtg	acaagacatg
19981	ttcattatta	tgacaatcca	atgtatttta	ttaggttaaa	cttccttaac	aacttaagcg
20041	ttggcaataa	agctaaaggt	attattaagc	aagcgactac	aaaaaaagag	gcagtaatta
20101	aacctaaaaa	aattatgctt	gtagccggctc	atggttataa	cgatcctgga	gcagtaggaa
20161	acggaacaaa	cgaacgcgat	tttatacgta	aatatataac	gcctaataatc	gctaagtatt
20221	taagacatgc	aggacatgaa	gttgcattat	acggtggctc	aagtcaatca	caagatatgt
20281	atcaagatac	tgcatacggt	gttaatgtag	gcaataaaaa	agattatggc	ttatattggg
20341	ttaaatcaca	ggggtagtac	attgttctag	aaatacattt	agacgcagca	ggagaaagcg
20401	caagtgggtg	gcatgttatt	atctcaagtc	aattcaatgc	agatactatt	gataaaagta
20461	tacaagatgt	tattaaaaat	aacttaggac	aaataagagg	tgtgacacct	cgtaatgatt
20521	tactaaatgt	taatgtatca	gcagaaataa	atataaatta	tcgtttatct	gaattaggtt
20581	ttattactaa	taaaaatgat	atggattgga	ttaagaaaaa	ctatgacttg	tattctaaat
20641	taatagccgg	tgcgattcat	ggtaagccta	taggtgggtt	ggtagctggt	aatgttaaaa
20701	catcagctaa	aaacaaaaaa	aatccaccag	tgccagcagg	ttatacactc	gataagaata



Figure 2H

20761	atgtccctta	taaaaaagaa	caaggcaatt	acacagtagc	taatgttaaa	ggtaataatg
20821	taagagacgg	ttattcaact	aattcaagaa	ttacaggggt	attaccaaac	aacacaacaa
20881	ttacgtatga	cgggtgcatat	tgtattaatg	gttatagatg	gattacttat	attgctaata
20941	gtggacaacg	tcgttatata	gcgacaggag	aggtagacaa	ggcaggtaat	agaataagta
21001	gttttggtaa	gttttagcacg	attttagtatt	tacttagaat	aaaaattttg	ctacattaat
21061	tataggggaat	cttacaggtta	ttaaataact	atttggatgg	atgttaatat	tcctatacac
21121	ttttttaacat	ttctctcaag	atttaaatgt	agataacagg	cagggtacttc	gggtacttgcc
21181	tatttttttta	tggtatagct	agccttcggg	ctagtttttt	gttatgatgt	gttacacatg
21241	catcaactat	ttacatctat	ccttggtcac	ccaagcatgt	caactggatgt	tttttcttgc
21301	gatagagagc	atagttttca	tactactccc	cgtagtatat	atgacttttag	cattcccgtta
21361	taacagttta	cgggggtgctt	ttatgttata	attgctttta	tatagtagga	gtgaactata
21421	tagccgggca	gaggccatgt	atctgactgt	tgggtcccaca	ggagacatct	tccttgtcat
21481	cactcgatac	atatatctta	acaacataga	aatgttacat	tcgtataaac	cgtatcttaa
21541	tcgatacggg	tatatattatt	cccctacaac	caacaaaacc	acagatccta	ttaatttagg
21601	attgtgggta	ttttttgctt	ttttttgggg	caaaaaaagg	gcagattatt	tgaaaaaggg
21661	caaacgcttg	tggaaaagct	aaaagggttaa	aaatgacaaa	aaccttgata	caacagtgtt
21721	tttggacgct	cgtgtacggt	agagaatgac	cgggtttacca	tcatacaagg	gtgggattaa
21781	cttgtgttaa	aaagccttta	atatcagttg	ttacaaagga	tttgtagcgt	ctttaaaaat
21841	aaaaaagggc	agaaaaaggg	cagatacctt	ttagtacaca	agtttttcta	atttttgctc
21901	taactctctg	tccattttct	ctgttacatg	tgtatacacc	tttatagtcg	ttttttcatc
21961	tgtatgtcct	actcttttca	taattgcttt	taacgatata	ttcatttccg	ccaataaact
22021	tatgtgtgta	tgccttagtg	tgtgagtagt	aactttttta	tttatattta	atgattctgc
22081	agctgaggac	aatcgtttgt	ttatcctact	gccttgcata	ggatttcctt	ggcaagtgtg
22141	gaatataaac	cctctatcaa	catagcttgg	ttcccattgt	tgcactcttt	tattttctaa
22201	cattattttt	ttcaatacat	ttgctatcct	tgaattgatg	gcgatttttc	ttcttgaacc
22261	tgcgggtctta	gtagtatctt	tgtgaccaa	tccagcatta	catttgattc	tgtgaatagt
22321	gccattaata	gcgatcggtt	tatttttgag	gtcaacatct	ttaacttgga	gagctaataa
22381	ctcacctatg	cgcatacctg	ttaaagcttg	aacttctaca	gccccagcaa	ctaaaatacg
22441	agctctatac	tgcattgttat	tatcgttcag	tataaaatcg	cgtatctgta	ttacctgttc
22501	catctctaaa	tagttataca	ttttcgcttc	ttctttttct	atatcttcta	tcgtcttact
22561	cttcttttgg	agtgtgacgc	tatttaatat	gtgttcggtt	ggataattgt	aaaatttaac
22621	ggcgtattta	atagcttctt	tcatatgtcc	aagttgacgc	tttacctgat	ttgcagaata
22681	tacgtttgat	aatttggttaa	taaatggttg	catgtacttt	gtatcaattt	tgtttaaaag
22741	taaattttga	gaactgttct	ttttgatgtt	tttgattcct	gttttcaaat	tatcaagcgt
22801	cgttacttta	aagccagatg	tttttatatg	atattcaagc	cattcatcta	ataacgcgtg
22861	aaaagtcaaa	gtttttaatt	cgcttgacga	cctgttggtt	agtttttctt	ttattttttc
22921	ttctaaacga	aacattgcct	ctttttgcga	ttgctttgta	ttcttattca	agacaacact
22981	tacacgtttc	catttatctg	tatacggatc	tttgtatttc	tcgtagtatc	tatacttcgt
23041	ttcattgttc	ttatttttaa	atttttcaaa	ccacatttta	catccctcct	caaaattggc
23101	aaaaaataat	aagggtaggc	gggctaccca	tgaatttggt	ataaaaaaag	acgcctgtat
23161	aaaatacaga	cgccacttat	aattataaga	ttacatgggt	aattaccaaa	aatggtaacg
23221	aatatatacg	tgtttttaag	gataaacctt	taatataatta	aaattatatc	atcttatatc
23281	agggatctgc	aatatattat	tattaattct	atztatcagt	aacataatat	ccgaagaatc
23341	tattactgga	tttttaattt	tttggggtaa	aacttttctt	atgcgaaact	tactaatcgg
23401	ctggaaagaa	tttatgcaag	cgtaactatt	accttttaat	ttttttacct	tatcaattgc
23461	tgatactatg	ttattaatgt	ttctgtcaat	ttattttaat	ttattttcaa	tttctaaact
23521	atcagatata	aattcaataa	aataatcttt	agtgatgaat	tctgtgttgt	ttttttggta
23581	ttttttatcg	aaaacttctt	ttaatatagc	tgaattattt	tgcgcgctaa	ttaaatttaa
23641	aaacaatctt	aaataatact	cccatttcaa	atcaaaattc	atcttttaaat	acttttttgt
23701	ttcttttagag	gataagggaa	taacattttac	tatatcctcc	gtattagaat	cattttttatt



Figure 2I

23761	catcactatt	gcaaagtgtg	aattagaaaa	ttctttatta	acgtttatac	cgaaatctac
23821	aaaaactatt	tctccttggt	taaactttgg	ataaaaacct	ttatggtttt	tttcaccttc
23881	aatctctctg	agtaaatagt	gaatatctga	atctaacttt	ttaaattttg	gatttccaga
23941	agttttttaat	ttattaatgc	gtttttctat	attatgcgtc	atcattttctc	ctttattctc
24001	gctcacactc	tcaccaccat	tcaacgtcta	cacttgtagg	cgttttttga	ttagtaaaat
24061	cataatgaat	cttcttttgg	taacttateg	ccatctattt	tttgtgaaat	aaattccaag
24121	tattttacgcg	cattatgtga	cgataaaatct	ttaggtaact	cataagtga	tggttgatta
24181	ccactaggtta	aaacttcata	tactatagtt	tctttttttta	ttttgcaatt	agttattttc
24241	attataaact	cctttttaaac	actgctgaaa	tagacgtctt	tttcaaataa	gcatgattaa
24301	tacttttaatt	ctttaatcca	catatatatta	aaagtgaggt	agtaggtaat	aaatataaga
24361	cttaaggtta	agattgcttt	tttcatgtca	atttctcctt	tgtttatatt	tatattaaag
24421	cgctaaatat	acgttattaa	tcacaataca	actttgcccc	ttactttaat	atcactaaac
24481	gaagcgactt	tgatatcatc	atacttcgga	tttagagata	ccaaattaat	atagtcttcg
24541	catatatcta	cacgcttgat	aagacttact	ccatctaata	caacgagtgc	aattgtacca
24601	tcttttaatag	aatctttctt	cttaataaaa	gcgtatgttc	cttgttttta	cataggttcc
24661	attgaatcac	cattaactaa	aatacaaaaa	tcagcatttg	atggcggttc	gtcttcttta
24721	aaaaataact	cttcatgcaa	tatgtcatca	tataattctt	ctcctatgcc	agcaccagtt
24781	gcaccacatg	caatatacga	tactagttta	gactctttat	attcatctat	agaagtgact
24841	ttattctgtt	catctaattg	ctcatttgca	tagttaagta	cgttttcttg	gcggggaggt
24901	gtgagttgag	aaaatatggt	attgattttt	gacattatcg	tttcatcttg	acgttcttcg
24961	tcaggaactc	gataagaatc	tacatcatac	cccataagcc	acgttccacc	gacatttaaa
25021	gttttagata	ataagaataa	tttatgttgg	tctggagaag	accttccatt	aacatactgg
25081	gataagtgac	tttttgacat	tttaatatct	aattcttttt	gaaaggggtt	cgacttttct
25141	agaatatcta	cttgacgcaa	gttcttatct	ttcataattt	gttttaatct	ttcagaagtg
25201	ttttgcattg	gtaatgcctc	cttgaaattc	attatatagg	aagggaataa	aaaatcaata
25261	caaaagttca	acttttttaa	ctttttgtgt	tgacattggt	caaaattggg	gttatagtta
25321	ttatagttca	aatgtttgaa	cttaggaggt	gattatttga	atactaatac	aacttttgat
25381	ttttcgttat	tgaacggtaa	gatagtcgaa	gtgtactcga	cacaatttaa	ctttgctata
25441	gcttttagtg	tatcagaaag	aactttgtct	ttgaagttga	acaacaaagt	accatggaaa
25501	acaacagaca	ttattaaagc	ttgtaagtta	ttgggaatac	ctataaaaaga	tgttcacaaa
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25621	tgcaagaacg	agaaaagggt	aataaaaagta	acacatcttc	aaatgaagca	tcaaaacctt
25681	ttaggacaaa	ttgaagctta	cgacaaaacg	cttaaagaaa	taaagtacac	tcgagacctt
25741	tacaacaaac	acctaagcat	gaacaacgaa	gacgcattcg	ctggtttgga	aatggtagag
25801	gatgaaatta	ctaaaaagct	acgaagtgc	atcaaagagt	tccaaaaagt	agtgaaagcg
25861	ttagacaagc	ttaacggtgt	tgaaagcgat	aacaaagtta	ctgatttaac	agagtggcgg
25921	aaagtgaatc	agtaacattc	acttcttaat	ataaccacgc	ttatcaacat	ccacattgag
25981	cagatgtgag	cgagagctgg	cgatgatatg	agccgcgttt	aaatacattc	gatagtcatt
26041	gcgataaccg	tctgctgaat	gtgggtgttg	aggaaaaagg	aggatactca	aatgcaagca
26101	ttacaaacat	ttaattttta	agagctacca	gtaagaacag	tagaaattga	aaacgaacct
26161	tattttgtag	gaaaagatat	tgctgagatt	ttaggatatg	caagatcaaa	caatgccatt
26221	agaaatcatg	ttgatagcga	ggacaagctg	acgcaccaat	ttagtgcac	aggtcaaaac
26281	agaaatatga	tcattatcaa	cgaatcagga	ttatacagtc	taatcttcga	tgcttctaaa
26341	caaagcaaaa	acgaaaaaat	tagagaaacc	gctagaaaaat	tcaaacgctg	ggtaaacatca
26401	gatgtcctac	cagctattcg	caaacacggt	atatacgcaa	cagacaatgt	aattgaacaa
26461	acattaaaag	atccagacta	catcattaca	gtgttgactg	agtataagaa	agaaaaagag
26521	caaaacttac	ttttacaaca	gcaagtagaa	gttaacaaac	caaaagtatt	attcgctgac
26581	tcggtagctg	gtagtataaa	ttcaataact	gttgagaaac	tagcgaaaat	acttaacaa
26641	aacgggtgtg	atataggaca	aaacagattg	ttcaaatggt	taagaaataa	tggatatctc
26701	attaaaaaga	gtggagaaag	ttataactta	ccaactcaaa	agagtatgga	tctaaaaatc



Figure 2J

26761	ttggatatca	aaaaacgaat	aattaataat	ccagatgggtt	caagtaaagt	atcacgtaca
26821	ccaaaagtaa	caggcaaagg	acaacaatac	tttgттаата	agtttttagg	agaaaaacaa
26881	acatcttaaa	aggaggaaca	caatggaaca	aatcacatta	accaaagaag	agttgaaaga
26941	aattatagca	aaagaagtta	gagaggctat	aatgggcaag	aaaccaatca	gttcagggttc
27001	aatttttcagt	aaagtaagaa	tcaataatga	cgatttagaa	gaaatcaata	aaaaactcaa
27061	tttcgcaaaa	gattttgtcgc	taggaagatt	gaggaagctc	aatcatccga	ttccgctaaa
27121	aaagtatcag	catggcttcg	aatcaattca	tcaaaaagct	tatgtacaag	atgttcatga
27181	ccatattaga	aaattaacat	tatcaatttt	tggagtгaca	cttaattcag	acttgagtga
27241	aagtgaatac	aacctagcag	caaaagttta	tcgagaaatc	aaaaactatt	atttatacat
27301	ctatgaaaag	agagtttcag	aattaactat	cgatgatttc	gaataaagga	ggaacaacaa
27361	atgttacaaa	aatttagaat	tgcgaaagaa	aaaaataaat	taaaactcaa	attactcaag
27421	catgctagtt	actgtttaga	aagaaacaac	aaccctgaac	tgttgcgagc	agttgcagag
27481	ttgttgaaaa	aggttagcta	aattcaacgg	taaggatttg	ccctgcctcc	acacttagag
27541	tttgagatcc	aacaaacaca	taagttttag	tagggcttag	aaaaaatggt	tcgatttcct
27601	cttttgtaac	agttttcaatt	ccttcataatc	ctggaaaaac	aattttcttt	aaatccgaaa
27661	catgtttttt	tgaaccatcc	tttaaagtaa	ctagaagttt	catacttatc	acctccttag
27721	gttgataaca	acattataca	cgaaaggagc	ataaacaata	tgcaagcatt	acaaacaaat
27781	tcgaacatcg	gagaaatggt	caatattcaa	gaaaaagaaa	atggagaaat	cgcaatcagc
27841	ggtcgagaac	ttcatcaagc	attagaagtt	aagacagcat	ataaagattg	gtttccaaga
27901	atgcttaaat	acggatttga	agaaaataca	gattacacag	ctatcgctca	aaaaagagca
27961	acagctcaag	gcaatatgac	tcactatatt	gaccacgcac	tcacactaga	cactgcaaaa
28021	gaaatcgcaa	tgattcaacg	tagtgaacct	ggcaaacgtg	caagacaata	tttcatccaa
28081	gttgaaaaag	catggaacag	cccagaaatg	attatgcaac	gtgctttaaa	aattgctaac
28141	aacacaatca	atcaattaga	aacaaagatt	gcacgtgaca	aaccaaaaat	tgtatttgca
28201	gatgcagtag	ctactactaa	gacatcaatt	ttagttggag	agttagcaaa	gatcattaaa
28261	caaaacggta	taaacatcgg	gcaacgcaga	ttgtttgagt	ggttacgtca	aaacggattc
28321	cttatttaaac	gcaagggtgt	ggattataac	atgcctacac	agtattcaat	ggaacgtgag
28381	ttattcgaaa	ttaaagaaac	atcaatcaca	cattcggacg	gtcacacatc	aattagtaag
28441	acgccaaaag	taacaggtaa	aggacaacaa	tactttgtta	acaagttttt	aggagaaaaa
28501	caaacaactt	aataggagga	attacaaatg	aacgcactat	acaaaacaac	cctcctcatc
28561	acaatggcag	ttgtgacgtg	gaaggtttgg	aagattgaga	agcacactag	aaaacctgtg
28621	attagtagca	gggcggttag	tgactatcta	aacaacaaat	ctttaaccat	accgaaagat
28681	gctgaaaatt	ctactgaatc	tgctcgtcgc	cttttgaaagt	tcgccgaaca	aactattagc
28741	aaataacaac	attatacacg	aaaggaaaga	tagaaatgcc	aaaaatcata	gtaccaccaa
28801	caccagaaaa	cacatataga	ggcgaagaaa	aatttgtgaa	aaagttatac	gcaacaccta
28861	cacaaatcca	tcaattgttt	ggagtatgta	gaagtacagt	atacaactgg	ttgaaatatt
28921	accgcaaaga	taatttaggt	gtagaaaatt	tatacattga	ttattcacca	acaggcactc
28981	tgattaatat	ttctaaattg	gaagagtatt	tgatcagaaa	gcataaaaaa	tggtattagg
29041	aggatattaa	atgagcaaca	tttataaaaag	ctacctagta	gcagtattat	gcttcacagt
29101	cttagcgatt	gtacttatgc	cgtttctata	cttcactaca	gcatgggtcaa	ttgcgggatt
29161	cgcaagtatc	gcaacattca	tgtactacaa	agaatgcttt	ttcaaagaat	aaaaaaaactg
29221	ctacttggtg	gagcaagtaa	cagtatcaaa	cacttaagaa	aaaattcatg	ttcaatataa
29281	aacgaaaaac	ggaggaagtc	aagatgtatt	acgaaatagg	cgaaatcata	cgcaaaaaata
29341	ttcatgttaa	cggattcgat	tttaagctat	tcatttttaa	aggtcatatg	ggcatatcaa
29401	tacaagttaa	agatatgaac	aacgtaccaa	ttaaacatgc	ttatgtcgta	gatgagaatg
29461	acttagatat	ggcatcgac	ttattttaacc	aagcaataga	tgaatggatt	gaagagaaca
29521	cagacgaaca	ggacagacta	attaacttag	tcatgaaatg	gtaggaggtc	gctatgaagc
29581	agactgtaac	ttatatcatt	cgtcataggg	atatgccaat	ttatataact	aacaaaccaa
29641	ctgataacaa	ttcagatatt	agttactcca	caaatagaaa	tagagctagg	gagtttaacg
29701	gtatggaaga	agcgagtatc	aatatggatt	atcacaaagc	aatcaagaaa	acagtgcagc



Figure 2K

29761	aaactattga	gtacgaggag	gtagaacatg	actgaggaaa	aacaagaacc	acaagaaaaa
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29881	tataaatttg	cagtatacgg	aaaaattggc	tcaggaaaaa	ccacgtttgc	tacaagagat
29941	aaagacgctt	tcgtcattga	cattaacgaa	gggtggaaca	cggttactga	cgaaggatca
30001	gacgtagaaa	tcgagaacta	tcaacacttt	gtttatgttg	taaatttttt	acctcaaatt
30061	ttacaggaga	tgagagaaaa	cggacaagaa	atcaatgttg	tagttattga	aactattcaa
30121	aaacttagag	atatgacatt	gaatgatgtg	atgaaaaata	agtctaaaaa	accaacgttt
30181	aatgattggg	gagaagttgc	tgaacgaatt	gtcagtatgt	acagattaat	aggaaaactt
30241	caagaagaat	acaaattcca	ctttgttatt	acaggtcatg	aaggtatcaa	caaagataaa
30301	gatgatgaag	gtagcactat	caaccctact	atcactattg	aagcgcaaga	acaaattaaa
30361	aaagctatta	cttctcaaag	tgatgtgtta	gctagggcaa	tgattgaaga	atttgatgat
30421	aacggagaaa	agaaagctag	atatattcta	aacgctgaac	cttctaatac	gtttgaaaca
30481	aagattagac	attcaccttc	aataacaatt	aacaataaga	aatttgcaaa	tcctagcatt
30541	acggacgtag	tagaagcaat	tagaaatgga	aactaaaaat	taattaaaag	gacggtattt
30601	aattatgaaa	atcacaggac	aagcgcaatt	tactaaagaa	acaaatcaag	aaaagtttta
30661	taacggctca	gcagggtttc	aagctggaga	attcacagtg	aaagttaaaa	atattgaatt
30721	caatgataga	gaaaatagat	atttcacaat	cgtatttgaa	aatgatgaag	gcaaacataa
30781	taaacataat	caatttgtac	cgccgtataa	atatgatttc	caagaaaaac	aattgattga
30841	attagttact	cgattaggta	ttaagttaaa	tcttcctagc	ttagattttg	ataccaatga
30901	tcttattggt	aagttttgtc	acttgggtatt	gaaatggaaa	ttcaatgaag	atgaaggtaa
30961	gtattttacg	gatttttcat	ttattaaacc	ttacaaaaag	ggcgatgatg	ttgttaacaa
31021	acctattccg	aagacagata	agcaaaaagc	tgaagaaaat	aacggggcac	aacaacaaac
31081	atcaatgtct	caacaaagca	atccatttga	aagcagtggc	caatttggat	atgacgacca
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31201	cgacggtact	tattccgtcg	ttgctactgg	tgttgaactt	gaacaaagtc	acattgactt
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31321	tatagaacaa	cgcaaaaaaa	tattcgcaat	gtgtagagat	atagaacttc	actggggcga
31381	accagtagaa	tcaactagaa	aattattaca	aacagaattg	gaaattatga	aaggttatga
31441	agaaatcagt	ctgcgcgact	gttctatgaa	agttgcaagg	gagttaatat	aactgattat
31501	agcgtttatg	tttcatcatc	aaatacctat	gagtgtagaa	acgagtaagt	tgtaaagcga
31561	agataaaagcg	ttattatatt	gggctacaat	caaccgcaac	tgtgtaatat	gcggaaagcc
31621	tcacgcagac	ctggcacatt	atgaagcagt	cggcagaggc	atgaacagaa	acaaaatgaa
31681	ccactatgac	aaacatgtat	tagcgttatg	tcgcgaacat	cacaacgagc	aacatgcgat
31741	tggcggttaag	tcgtttgatg	ataaatacca	cttgcacatg	tcgtggataa	aagttgatga
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31921	gtggagaaaa	ttttaaaatc	tccgtttagt	taatacaggt	ttttacaaaa	gctttaccat
31981	aggcggacaa	actaattgag	ccttttttga	tgtctattac	ccaggggctg	taatgtaact
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32101	ttaacattct	tttaacaaat	tctaattccg	aaacaaatct	ttgtttttct	ataatcttat
32161	taaagtgatt	taaaaactga	ggagcataaa	acttattata	aattcctttt	tttgtaaagt
32221	aagacatgtc	aaaagtttca	tttaaaaccc	ctaacccttac	taggttatta	attgaaattt
32281	cggttgatcc	tatatctaac	ggagagtctt	ttattaacgt	gtccgatata	ttcataccgt
32341	cattcttttg	gtttaaaacc	gctctatatt	taacggcagg	atgtacttcg	tgattcttta
32401	aatgttttaa	aagaatagca	tcatttgggg	ataattgttt	aattatttca	acaaatgaat
32461	gggtgggttaa	tgagtttttt	ctgtcatcca	tagatgatgc	tattagtttt	gcgaacatat
32521	tacttaaagt	tttttacta	atgtaaaact	ttgaagcttc	tagagcagga	cctagaagag
32581	aaaattgtgg	ttcttgtaaa	ttatttttag	gtacagaaga	tatttctttt	ttaaattggt
32641	ctttgaattt	ttcaaattct	acttctcttt	gataaataac	tttatccaca	taaagggtga
32701	atttcccaaa	gacaagttcc	caagtttttag	agaatgtttc	tacaggccct	tttgatgcgc



Figure 2L

32761	cttcaataat	tttatcaata	cctttaccta	aaataggatc	cataattatt	cacccccaat
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32881	aagttactac	tcaataatta	cagcaaagt	cagatacgat	aaccgactta	ctgacagcga
32941	aaagttactt	tttgcaaaa	taacatcttt	aagtaacaaa	tacggatact	gcacagcaag
33001	taatggttac	tttgcaactt	tatacaacgt	tgttaaggaa	actatatctc	gtagaatttc
33061	gaaccttacc	aacttttggtt	atctaaaaat	cgaaattatc	aaagaaggta	atgaagttaa
33121	acaaaggaag	atgtaccctt	tgacgcaaac	gtcaatacct	attgacgcaa	aatcaatac
33181	ccctattgat	aattctgtca	atacccttat	tgacgcaa	gtcaaagaga	atattacaag
33241	tattaataat	acaagtaata	acaatataaa	tagaatagat	atattgtcgg	gcaacccgac
33301	agcatcttct	ataccctata	aagaaattat	cgattactta	aacaaaaaag	cgggcaagca
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33661	aaaatatcaa	cctactcatg	tcgaaaaagg	attgaaatgt	gagagatgtg	gaagtgaata
33721	cgacttata	aagtttgctc	ctactaaaaa	acacccgaat	ggttacgagt	ataaagacgg
33781	ttgcaaagt	gaaatctatg	aggaatataa	gcgaaacaag	caacggaaga	taaacaacat
33841	attcaatcaa	tcaaacgtta	atccgtcttt	aagagatgca	acagtcaaaa	actacaagcc
33901	acaaaatgaa	aaacaagtac	acgctaataa	aacagcaata	gagtacgtac	aaggcttctc
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34021	agcatacgct	atcgcaaaag	cagtcaaagc	taaagggcat	acggttgctt	ttatgcacat
34081	accaatggtg	atggatcgta	tcaaagcgac	atacaacaaa	aatgcagtag	agactacaga
34141	cgagctagtc	agattgctaa	gtgatattga	tttacttgta	ctagatgata	tgggtgtaga
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34261	caacatcttt	acaactaact	ttagtataa	agaactaaat	caaaatatga	actggcaacg
34321	tataaattcg	agaatgaaaa	aaagagcaag	aaaagtaaga	gtaatcggag	acgatttcag
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34501	atccaaaaac	ttgcagaacg	tcatacacgc	cccgcctatc	tcgaatatta	aggagtgtta
34561	aaaatgccga	aagaaaaata	ttactttatac	cgagaagatg	gcacagaaga	tattaaggtc
34621	atcaagtata	aagacaacgt	aaatgaggtt	tattcgctca	caggagccca	tttcagcgac
34681	gaaaagaaaa	ttatgactga	tagtgaccta	aaacgattca	aaggcgctca	cgggcttcta
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35101	aattggatat	gtaaagcgcc	taagtataca	ggtaaaacat	ggattacgta	cgaggaatta
35161	attaaagcaa	gacgagaacg	caaaagagaa	atgaagtgat	ctaatacaac	aacaagcata
35221	tataaatgca	acgattgata	taaggatacc	tacagaagtt	gaatatcagc	atthttgatga
35281	tgtggataaa	gaaaaagaag	cgctggcaga	ttactttatat	aacaatcctg	acgaaatact
35341	agagtatgac	aattttaaaaa	ttagaaacgt	aaatgtagag	gtggaataaa	tgggcagtgt
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35461	agcgtgggat	aaatgctgga	attgtttcta	aacgtgttag	aggttggttg	gagttttcag
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35641	agctacgtaa	gaagaagcca	catttgttta	atgtacctca	aaaacattca	cgtgatccgt
35701	actggttcga	tgtcacttat	aaccaaagt	tcaagaaatg	gagtgaagca	taatgagcat



Figure 2M

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35881	accacaatta	gcattcgcaa	taggtaatgc	aattaaatac	ttgtctagag	caccgttaaa
35941	gaatggtcac	gaggatttag	caaaggcgaa	gttttacgtc	gatagagtat	ttgacttggtg
36001	ggagtgatga	ccatgacaga	tagcggacgt	aaagaatact	taaaacattt	tttcggctct
36061	aagagatatc	tgtatcagga	taacgaacga	gtggcacata	tccatgtagt	aatggcact
36121	tattactttc	acggtcatat	cgtgccaggt	tggcaaggtg	tgaaaaagac	atttgataca
36181	gcggaagagc	ttgaaacata	tataaagcaa	agtgatttgg	aatatgagga	acagaagcaa
36241	ctaactttat	tttaaaaggg	cggaaacaat	gaaaatcaaa	attgaaaaag	aatgaattt
36301	acctgaactt	atccaatggg	cttgggataa	ccccaagtta	tcaggtaata	aaagattcta
36361	ttcaaatgat	gttgagcgca	actgttttgt	gacttttcat	gttgatagca	tcttatgtaa
36421	tgtgactgga	tatgtatcaa	ttaacgataa	atttactgtt	caagaggaga	tataacaatg
36481	aaaatcaaag	ttaaaaaaga	aatgagatta	gatgaattaa	ttaaatgggc	gcgagaaaat
36541	ccgatctat	cacaaggaaa	aatatttttt	tcaacaggat	ttagtgtatg	attcgttcgt
36601	tttcatccaa	atacaaataa	gtgttcgacg	tcaagtttta	ttccaattga	tatccccctt
36661	atagttgata	ttgaaaaaga	agtaacggaa	gagactaagg	ttgatagggt	gattgaatta
36721	ttcgagattc	aagaaggaga	ctataactct	acactatatg	agaacactag	tataaaagaa
36781	tgtttatatg	gcagatgtgt	gcctaccaa	gcattctaca	tcttaaacga	tgacctaa
36841	atgacgttaa	tctggaaaga	tggggagtgt	ctagtatgat	gttgaaattt	aaagcttggg
36901	ataaagataa	aaaagttagt	agtattattg	acgaaatcga	ttttaatagt	gggtacattt
36961	tgatttcaac	aggttataaa	agtttcaatg	aagtaaaact	attacaatac	acaggattta
37021	aagatgtgca	cgggtgtggag	atttatgaag	gggatattgt	tcaagattgt	tattcgagag
37081	aagtaagttt	tatcgagttt	aaagaaggag	ccttttatat	aacttttagc	aatgtaactg
37141	aattactaag	tgaaaatgac	gatattattg	aaattgttgg	aaatattttt	gaaaatgaga
37201	tgctattgga	ggttatgaga	tgacgttcac	cttatcagat	gaacaatata	aaaatccttg
37261	tactaactct	aacaagttat	tagataaact	tcacaaagca	ttaaaagatc	gtgaagagta
37321	caagaagcaa	cgagatgagc	ttattgggga	tatagcgaag	ttacgagatt	gtaacaaaga
37381	tctagagaag	aaagcaagcg	catgggtag	gtattgcaag	agcgttgaaa	aagattta
37441	aaacgaattc	ggtaacgatg	atgaaagagt	taaattcggg	atggaattaa	acaataaa
37501	ttttatggag	gatgacacaa	atgaataatc	gcgaaaaaat	cgaacagtc	gttatttagt
37561	ctagtgcgta	taacggtaat	gacacagagg	ggttgctaaa	agagattgag	gacgtgtata
37621	agaaagcgca	agcgtttgat	gaaataactt	agggaatgac	aatgctatt	caacattcag
37681	ttaaagaagg	tattgaactt	gatgaagcag	tagggattat	ggcagggtca	gttgtctata
37741	aatatgagga	ggaataggaa	aatgactaac	acattacaag	taaaactatt	atcaaaaa
37801	gctagaatgc	ccgaacgaaa	tcataagacg	gatgcagggt	atgacatatt	ctcagctgaa
37861	actgtcgtag	tcgaaccaca	agaaaaagca	gtgatcaaaa	cagatgtagc	tgtgagtata
37921	ccagagggct	atgtcggact	attaactagt	cgtagtgggt	taagtagtaa	aacgtattta
37981	gtgattgaaa	caggcaagat	agacgcggga	tatcatggca	atttagggat	taatatacag
38041	aatgatgaag	aacgtgatgg	aatacccttt	ttatatgatg	atatagacgc	tgaattagaa
38101	gatggattaa	taagcatttt	agatataaaa	ggtaactatg	tacaagatgg	aagaggcata
38161	agaagagttt	accaaataca	caaaggcgat	aaactagctc	aattgggttat	cgtgcctata
38221	tggacaccgg	aactaaagca	agtggaggaa	ttcgaaagtg	tttcagaacg	tggagcaaaa
38281	ggcttcggaa	gtagcggagt	gtaaagacat	cttagatcga	gttaaggagg	ttttggggaa
38341	gtgacgcaat	acttagtcac	aacattcaaa	gattcaacag	gacgaccaca	tgaacatatt
38401	actgtggcta	gagataatca	gacgtttaca	gttattgagg	cagagagtaa	agaagaagcg
38461	aaagagaagt	acgaggcaca	agttaaaaga	gatgcagtta	ttaaagtggg	tcagttgtat
38521	gaaaatataa	gggagtgtgg	gaaatgacgg	atgttaaaat	taaaactatt	tcaggtggag
38581	tttattttgt	aaaaacagct	gaaccttttg	aaaaatatgt	tgaaagaatg	acgagtttta
38641	atgggttatat	ttacgcaagt	actataatca	agaaaccaac	gtatattaaa	acagatacga
38701	ttgaatcaat	cacacttatt	gaggagcatg	ggaaatgaat	cagctgagaa	ttttattaca



Figure 2N

38761	tgacggtagt	agtttgatat	tacatgaaga	tgaattat	aacgaaatag	tatttgtttt
38821	ggacaatttt	agaaatgatg	atgactat	aacgatagaa	aaagattatg	gcagagaact
38881	tgtattgaac	aaagggtata	tagttgggat	caatgttgag	gaggcagatg	atgattaaca
38941	tacctaataa	gaaattcccg	aaaaagtaca	ctgaaataat	caaaaaatat	aaaaataaag
39001	cacctgaaga	aaaggctaag	attgaagatg	attttattaa	agaaattaaa	gataaagaca
39061	gtgaatttta	cagtcctacg	atggctaata	tgaatgaata	tgaattaagg	gctatgttaa
39121	gaatgatgcc	tagtttaatt	gatactggag	atgacaatga	tgattaaaaa	acttaaaaaa
39181	atggatgggt	tcgacatctt	tattgttgga	atactgtcat	tattcggtat	attcgcat
39241	ctacttggtt	tcacattgcc	tatctataca	gtggctagtt	accaacacaa	agaattacat
39301	caaggaacta	ttacagataa	atataacaag	agacaagata	aagaagacaa	gttctatatt
39361	gtatttagaca	acaaacaagt	cattgaaaat	tccgacttat	tattcaaaaa	gaaatttgat
39421	agcgagata	tacaagctag	gttaaaagta	ggcgataagg	tagaagttaa	aacaatcggt
39481	tatagaatac	acttttttaa	tttatatccg	gtcttatacg	aagtaaagaa	ggtagataaa
39541	caatgattaa	acaaatacta	agactattat	tcttactagc	aatgtatgag	ttaggtaagt
39601	atgtaactga	gcaagtgtat	attatgatga	cggctaata	tgatgtagag	gcgccgagtg
39661	attacgtctt	tcgagcggag	gtgagtgaat	aatgagaata	tttatttatg	atttgatcgt
39721	tttgctgttt	gctttcttaa	tatccatata	tattattgat	gatggagtga	taataaatgc
39781	attaggaatt	tttggtatgt	ataaaattat	agattccttt	tcagaaaata	ttataaagag
39841	gtagataaaa	atgaacgagc	aaataatagg	aagcatatat	acttttagcag	gaggtgttgt
39901	gctttattca	gttaaagaga	tttttaggta	ttttacagat	tctaacttac	aacgtaaaaa
39961	aatcaattta	gaacaaatat	atccgatata	tttagattgt	tttaaaaagg	ctaaaaagat
40021	gattggagct	tatattat	caacagaaca	gcatgaat	ttagattttt	ttgatattga
40081	agtctttaat	aatttagata	agcaaagtaa	aaaagcgtat	gaaaatgtta	ttggatttag
40141	acaaatgatt	aatttatcaa	atagagttaa	ggcaatggaa	gattttaaga	tgagtttcaa
40201	caatgaattt	agtacaaatc	agattttttt	taatccttct	tttggttatg	aaacaattgc
40261	tattataaat	gaatatcaaa	aagatatatc	ttatttaaaa	aatataatta	ataaaatgaa
40321	tgaaaataga	gcttataatc	atattgatag	ttttatcact	tcagagtacc	gacgaaaaat
40381	aaacgattat	aatctttatc	ttgataaatt	tgaagaacag	tttagtcaaa	agtttaaaat
40441	aaacagaact	tcgataaaa	aaagaattat	tattaattta	aacaagagga	gatttaaatg
40501	atgtggatta	ctatgactat	tgtatttgc	atattgctat	tagtttgtat	cagtattaat
40561	agtgatcgtg	caagagagat	acaagcactt	agatatatga	atgattatct	acttgatgaa
40621	gtagttaaaa	ctaaagggta	caacgggtta	gaagaataca	ggattgaatt	gaagcgaatg
40681	aataacgata	ttaaaaagta	atttatatta	tcggagggtat	tgcatggaat	gataaagatt
40741	gagaaacacg	atatcaaaaa	gcttgaagaa	tacattcagc	acatcgataa	ctatcgaa
40801	gagttgaaga	tcgagagaata	tgaattactt	gaaagtcag	aaccagataa	tcgaggagct
40861	ggcaaaagta	atttgccggg	taacccgatt	gaacgatgtg	caataaagaa	gtttagtgat
40921	aacagggtaca	atacattaag	aaatatagtt	aacggtgtag	atagattgat	aggtgaaagt
40981	gatgaggata	cgcttgagtt	attaagggtt	agatattggg	attgtcctat	tggttggtat
41041	gaatgggaag	atatagcaca	ttactttggg	acaagtaaga	caagtatat	acgtagaagg
41101	aatgcactga	tcgataagtt	agcaaagtat	attgggttatg	tgtagcggac	ttttacccta
41161	tgtaagtccg	cattaaaaca	gtttattatg	ttagtatcag	attaatat	aaagttatta
41221	aatgctaata	cgacgcgatga	acaagaggcg	catcactatg	tgatgtgtct	ttttatttat
41281	gagggtatgaa	catgttcaaa	ctaattgtaa	atacattact	acacatcaag	tatagatgag
41341	tcttgatact	acttaagtta	tataagggtga	aacattatga	tgactaaaga	cgaacgtata
41401	cgattctata	agtctaaaga	atggcaaata	acaagaaaaa	gagtgtctaga	aagagataat
41461	tatgaatgtc	aacaatgtaa	gagagacggc	aagttaacga	catatgacaa	aagcaagcgt
41521	aagtcggttg	atgtagatca	tatattatcg	ctagaacatc	atccggaggt	tgctcatgac
41581	ttaaacaatt	tagaaacact	gtgtattaaa	tgtcacaaca	aaaaagaaaa	gagatttata
41641	aaaaaagaaa	ataaatggaa	agacgaaaaa	tggtaaatac	ccccgggtca	aaaaaatcaa
41701	aagcgatc					



Figure 6A

SEQ ID NO: 6 DnaC nucleotide *B. subtilis*

```
1   ATGACAGACC TTCTGAATGA CCGGCTTCCT CCGCAAAATA TAGAAGCCGA
51  ACAAGCCGTG TTAGGCGCTA TTTTTTTACA GCCGTCTGCT TTAACACTGG
101 CTTCAGAAGT ATTGATTCCA GATGATTCTT ATAGAATGTC CCACCAAAAA
151 ATCTATAATG CGATGCTGGT GCTCGGTGAC CGAGGTGAAC CGGTTGATCT
201 GGTGACAGTT ACATCAGAGC TTGCGAACAC AGACCTGCTG GAAGAAGTAG
251 GCGGTATTTT ATATTTGACA GATATCGCAA ACTCGGTGCC GACAGCGGCT
301 AACATAGAAT ATTACGCGAA AATCGTTGAG GAAAAATCGA TTCTTCGCCG
351 ATTAATCAGA ACTGCGACAA CGATTGCTCA AGACGGGTAT ACCCGTGAGG
401 ATGAGGTCGA GGATTTACTC AGTGAAGCGG AAAAAACGAT TATGGAAGTG
451 GCACAGCGCA AAAACACGAG TGCCTTCCAA AATATTAAGG ACGTCCTTGT
501 CCAGACCTAT GATAATATCG AACAGCTTTA CAATCGAAAA GGTGATATCA
551 CGGGAATTCC AACAGGGGTTT ACGGAGCTTG ACCGGATGAC TGCGGGTTTC
601 CAGCGCAACG ACTTGATCAT TGTGGCTGCC CGTCCTTCAG TAGGGAAAAAC
651 AGCCTTTGCC CTGAACATCG CACAAAACGT GGCGACGAAG ACCGATGAGA
701 GCGTAGCGAT TTTCAGTCTT GAGATGGGTG CCGAGCAGCT CGTTATGCGT
751 ATGCTCTGTG CCGAGGGAAA TATCAATGCC CAGAATCTCC GTACAGGTAA
801 CCTGACCGAA GAGGATTGGG GCAAGCTGAC GATGGCAATG GGAAGCCTAT
851 CGAACAGCGG GATTTACATC GATGATACAC CGGGTATTCG AGTGAGTGAA
901 ATCCGTGCCA AGTGCCGCCG CTTGAAGCAG GAAAGCGGGC TGGGCATGAT
951 TTTGATCGAT TACCTGCAAT TGATTGAGGG AAGCGGTCGT TCAAAGGACA
1001 ACCGTCAGCA GGAAGTATCT GAAATTTCCC GTGAACTGAA GTCGATTGCG
1051 AGGGAGCTGC AAGTCCCTGT TATCGCGCTT TCTCAGCTTT CCAGGGGTGT
1101 TGAGCAGCGT CAGGATAAAC GTCCGATGAT GTCTGATATC CGGGAATCAG
1151 GAAGTATCGA GCAGGACGCG GATATTGTCG CGTTCCTTTA TCGTGATGAC
1201 TACTATGACA AAGAAACCGA GAATAAAAAT ATTATCGAAA TTATTATCGC
1251 CAAACAGCGT AACGGCCCGG TAGGAACCGT GTCTCTTGCG TTCGTAAAAG
1301 AATACAACAA ATTCGTCAAC CTGGAACGGC GTTTTGATGA CGCAGGCGTT
1351 CCGCCCGGCG CA
```



Figure 6B

SEQ ID NO: 7 DnaC nucleotide *S. aureus*

```
1  ATGGATAGAA TGTATGAGCA AAATCAAATG CCGCATAACA ATGAAGCTGA
51  ACAGTCTGTC TTAGGTTCAA TTATTATAGA TCCAGAATTG ATTAATACTA
101 CTCAGGAAGT TTTGCTTCCT GAGTCGTTTT ATAGGGGTGC CCATCAACAT
151 ATTTTCCGTG CAATGATGCA CTTAAATGAA GATAATAAAG AAATTGATGT
201 TGTAACATTG ATGGATCAAT TATCGACGGA AGGTACGTTG AATGAAGCGG
251 GTGGCCCCGA ATATCTTGCA GAGTTATCTA CAAATGTACC AACGACGCGA
301 AATGTTTCACT ATTATACTGA TATCGTTTCT AAGCATGCAT TAAAACGTAG
351 ATTGATTCAA ACTGCAGATA GTATTGCCAA TGATGGATAT AATGATGAAC
401 TTGAACTAGA TGCGATTTTA AGTGATGCAG AACGTCGAAT TTTAGAGCTA
451 TCATCTTCTC GTGAAAGCGA TGGCTTTAAA GACATTTCGAG ACGTCTTAGG
501 ACAAGTGTAT GAAACAGCTG AAGAGCTTGA TCAAAATAGT GGTCAAACAC
551 CAGGTATACC TACAGGATAT CGAGATTTAG ACCAAATGAC AGCAGGGTTC
601 AACCGAAATG ATTTAATTAT CCTTGCAGCG CGTCCATCTG TAGGTAAGAC
651 TGC GTTTCGCA CTTAATATTG CACAAAAAGT TGCAACGCAT GAAGATATGT
701 ATACAGTTGG TATTTTCTCG CTAGAGATGG GTGCTGATCA GTTAGCCACA
751 CGTATGATTT GTAGTTCTGG AAATGTTGAC TCAAACCGCT TAAGAACGGG
801 TACTATGACT GAGGAAGATT GGAGTCGTTT TACTATAGCG GTAGGTAAAT
851 TATCACGTAC GAAGATTTTT ATTGATGATA CACCGGGTAT TCGAATTAAT
901 GATTTACGTT CTAAATGTCTG TCGATTAAAG CAAGAACATG GCTTAGACAT
951 GATTGTGATT GACTACTTAC AGTTGATTCA AGGTAGTGGT TCACGTGCGT
1001 CCGATAACAG ACAACAGGAA GTTTCTGAAA TCTCTCGTAC ATTAAAAGCA
1051 TTAGCCCCGTG AATTAGAATG TCCAGTTATC GCATTAAGTC AGTTATCTCG
1101 TGGTGTTGAA CAACGACAAG ATAAACGTCC AATGATGAGT GATATTCGTG
1151 AATCTGGTTC GATTGAGCAA GATGCCGATA TCGTTGCATT CTTATACCGT
1201 GATGATTACT ATAACCGTGG CGGCGATGAA GATGATGACG ATGATGGTGG
1251 TTTCGAGCCA CAAACGAATG ATGAAAACGG TGAAATTGAA ATTATCATTG
1301 CTAAGCAACG TAACGGTCCA ACAGGCACAG TTAAGTTACA TTTTATGAAA
1351 CAATATAATA AATTTACCGA TATCGATTAT GCACATGCAG ATATGATGTA
1401 A
```



Optimal global alignment

Sequence 2 SEQ ID NO: 7 DnaC nucleotide *S. aureus*(1513 letters)

A circular black and white stamp. The outer ring contains the text "OIP E JCB" at the top and "PATENT & TRADEMARK OFFICE" at the bottom. In the center, the date "APR 29 2004" is stamped.

Figure 6C Cont.

seq1	699	GAGCGTAGCGATTTTTCAGTCTTGAGATGGGTGCCGAGCAGCTCGTTATGCGTATGCTCTG	758
seq2	702	TACAGTTGGTATTTTCTCGCTAGAGATGGGTGCTGATCAGTTAGCCACACGTATGATTTG	761
seq1	759	TGCCGAGGGAAATATCAATGCCCAGAATC---TCCGTACAGGTAACCTGACCGAAGAGGA	815
seq2	762	TAGTTCTGGAAATGT---TGACTCAAACCGCTTAAGAACGGGTACTATGACTGAGGAAGA	818
seq1	816	TTGGGGCAAGCTGACGATGGCAATGGGAAGCCTATCGAACAGCGGGATTTACATCGATGA	875
seq2	819	TTGGAGTCGTTTTACTATAGCGGTAGGTAAATTATCACGTACGAAGATTTTTATTGATGA	878
seq1	876	TACACCGGGTATTCGAGTGAGTGAAATCCGTGCCAAGTGCCGCCGCTTGAAGCAGGAAAG	935
seq2	879	TACACCGGGTATTCGAATTAATGATTTACGTTCTAAATGTCGTCGATTAAAGCAAGAACA	938
seq1	936	CGGGCTGGGCATGATTTTGATCGATTACCTGCAATTGATTCAGGGAAGCGGT---CGTTC	992
seq2	939	TGGCTTAGACATGATTGTGATTGACTACTTACAGTTGATTCAAGGTAGTGGTTCACGTGC	998
seq1	993	AAAGGACAACCGTCAGCAGGAAGTATCTGAAATTTCCCGTGAAGTGAAGTCGATTGCGAG	1052
seq2	999	GTCCGATAACAGACAACAGGAAGTTTCTGAAATCTCTCGTACATTAAAAGCATTAGCCCCG	1058
seq1	1053	GGAGCTGCAAGTCCCTGTTATCGCGCTTTCTCAGCTTTCCAGGGGTGTTGAGCAGCGTCA	1112
seq2	1059	TGAATTAGAATGTCCAGTTATCGCATTAAAGTCAGTTATCTCGTGGTGTTGAACAACGACA	1118
seq1	1113	GGATAAACGTCCGATGATGTCTGATATCCGGGAATCAGGAAGTATCGAGCAGGACGCGGA	1172
seq2	1119	AGATAAACGTCCAATGATGAGTGATATTCTGTAATCTGGTTCGATTGAGCAAGATGCCGA	1178
seq1	1173	TATTGTGCGGTTTCCTTTATCGTGATGACTACT-----ATGA	1208
seq2	1179	TATCGTTGCATTCTTATACCGTGATGATTACTATAACCGTGGCGGCGATGAAGATGATGA	1238
seq1	1209	CAAAGA-----AACCGA--GAATAAAA--ATATTATCGAAATTATTAT	1247
seq2	1239	CGATGATGGTGGTTTCGAGCCACAAACGAATGATGAAAACGGTGAAATTGAAATTATCAT	1298
seq1	1248	CGCCAAACAGCGTAACGGCCCGGTAGGAACCGTGTCTCTTGC-GTTCGTAAAAGAATACA	1306
seq2	1299	TGCTAAGCAACGTAACGGTCCAACAGGCACAGT-TAAGTTACATTTTATGAAACAATATA	1357
seq1	1307	ACAAATTCGTCAACCTGGAACGGCGTTTTTGATGACGCAGGCGTTCCGCCCCGGCGCA	1362
seq2	1358	ATAAATT---TACCGATATCG--ATTATGCACATGCAGATATGATG-----TAA	1401



Figure 6D

SEQ ID NO: 8 DnaC *B. subtilis*

1	MTDLLNDRLP	PQNI EAEQAV	LGAIFLQPSA	LTLASEVLIP	DDFYRMSHQK
51	IYNAMLVLGD	RGEPVDLVT	TSELANTDLL	EEVGGISYLT	DIANSVPTAA
101	NIEYYAKIVE	EKSILRRLIR	TATTIAQDGY	TREDEVEDLL	SEAEKTIMEV
151	AQRKNTSAFQ	NIKDVLVQTY	DNIEQLYNRK	GDITGIPTGF	TELD RMTAGF
201	QRNDLIIVAA	RPSVGKTAF	LNIAQNVATK	TDESVAIFSL	EMGAEQLVMR
251	MLCAEGNINA	QNLRTGNLTE	EDWGKLTAM	GSLSNSGIYI	DDTPGIRVSE
301	IRAKCRRLKQ	ESGLGMILID	YLQLIQGSGR	SKDNRQQEVS	EISRELKSIA
351	RELQVPVIAL	SQLSRGVEQR	QDKRPMMSDI	RESGSIEQDA	DIVAFLYRDD
401	YYDKETENKN	IIEIIIAKQR	NGPVGTVSLA	FVKEYNKFVN	LERRFDDAGV
451	PPGA				

SEQ ID NO: 9 DnaC *S. aureus*

1	MDRM YEQNQ M	PHNNEAEQSV	LGSIIIDPEL	INTTQEVLLP	ESFYRG AHQH
51	IFRAMMHLNE	DNKEIDVVT	MDQLSTEGTL	NEAGGPQYLA	ELSTNVPTTR
101	NVQYYTDIVS	KHALKRRLIQ	TADSIANDGY	NDELELDAIL	SDAERRILEL
151	SSSRES DGFK	DIRDVLGQVY	ETAEELDQNS	GQTPGIPTGY	RDLDQM TAGF
201	NRNDLIILAA	RPSVGKTAF	LNIAQKVATH	EDMYTVGIFS	LEMGADQLAT
251	RMICSSGNVD	SNRLRTGTMT	EEDWSRFTIA	VGKLSRTKIF	IDDTPGIRIN
301	DLRSKCRRLK	QEHGLDMIVI	DYLQLIQGSG	SRASDNRQQE	VSEISRTLKA
351	LARELECPVI	ALSQLSRGVE	QRQDKRPMMS	DIRESGSIEQ	DADIVAFLYR
401	DDYYNRGGDE	DDDDGGGFEP	QTNDENGEIE	IIIAKQRNGP	TGTVKLHFMK
451	QYNKFTDIDY	AHADMM			



Figure 6E

Sequence 1 SEQ ID NO: 8 DnaC *B. subtilis* (490 letters)

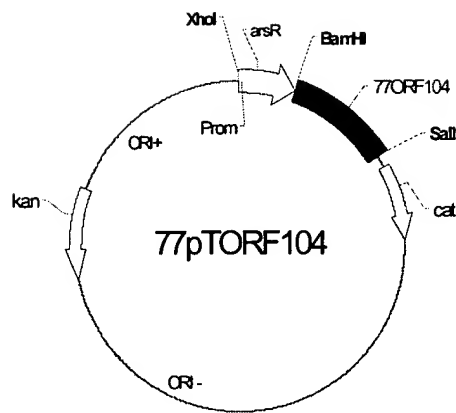
Sequence 2 SEQ ID NO: 9 DnaC *S. aureus* (503 letters)

seq1	1	MTDLLNDRLPQNI EAEQAVLG AIFLQPSALT LASEVLIPDD FYRMSHQKIYNAMLVLGD	60
		: : : : : : :	
seq2	1	MDRMYEQNQMPHNNEAEQSVLGSIIIDPELINTTQEVLLPESFYRGAHQHIFRAMMHLNE	60
seq1	61	RGEPVDLVTVTSELANTDLLEEVGGISYLTDIANSVPTAANIEYYAKIVEEKSILRRLIR	120
		: : : : : : : : :	
seq2	61	DNKEIDVVTLM DQLSTEGTLNEAGGPQYLAELSTNVPTTRNVQYYTDIVSKHALKRRLIQ	120
seq1	121	TATTIAQDGYTREDEVEDLLSEAEKTIMEVAQRKNTSAFQNIKDVLVQTYDNIEQLYNRK	180
		: : : : : : : : : : : :	
seq2	121	TADSIANDGYNDELELDAILSDAERRILELSSSRES DGFKDIRDVLGQVYETAELDQNS	180
seq1	181	GDITGIPTGFTELDRMTAGFQRNDLIIVAARPSVGKTAFALNIAQNVATKTD-ESVAIFS	239
		: : :	
seq2	181	GQTPGIPTGYRDL DQMTAGFNRNDLIILAARPSVGKTAFALNIAQKVATHEDMYTVGIFS	240
seq1	240	LEMGAELVMRMLCAEGNINAQNLR TGNLTEEDWGKLTAMGSLSNSGIYIDDTPGIRVS	299
		: : : : : : : : : : :	
seq2	241	LEMGADQLATRMICSSGNVDSNRLRTGTMT EEDWSRFTI AVGKLSRTKIFIDDTPGIRIN	300
seq1	300	EIRAKCRRLKQESGLGMILIDY LQLIQGSG-RSKDNRQQEVSEISRELKSIARELQVPVI	358
		: : : : : :	
seq2	301	DLRSKCRRLKQEHGLDMIVIDY LQLIQGSGSRASDNRQQEVSEISRTLKALARELECPVI	360
seq1	359	ALSQLSRGVEQRQDKRPMSDIRESGSIEQDADIVAFLYRDDYYDK-----	404
		: :	
seq2	361	ALSQLSRGVEQRQDKRPMSDIRESGSIEQDADIVAFLYRDDYYNRGGDEDDDDGGFEP	420
seq1	405	ETENKN-IIEIIIAKQRNGPVGTVSLAFVKEYNKFVNLERRFDDAGVPPGA	454
		: : : : : : : :	
seq2	421	QTNDENGEIEIIIAKQRNGPTGT VKLHFMKQYNKFTDIDYAHADM-----M	466

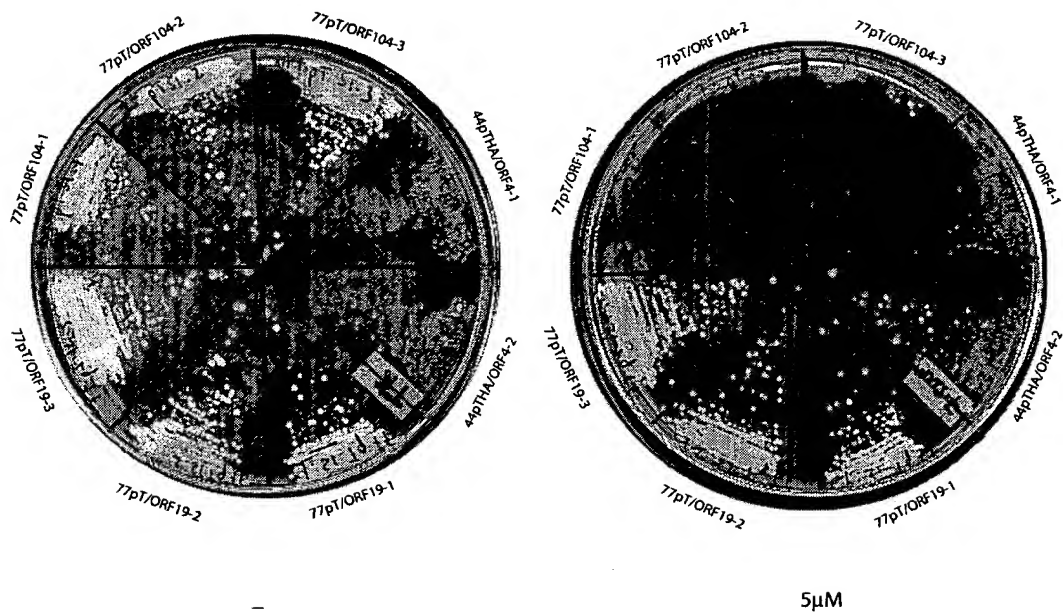


FIGURE 7

7A-



7B-



7C-

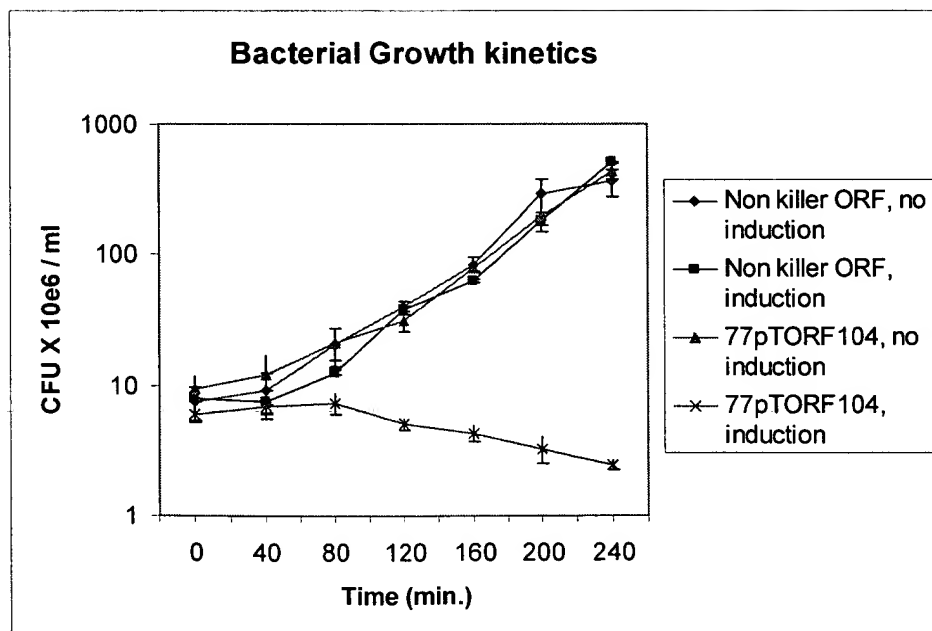
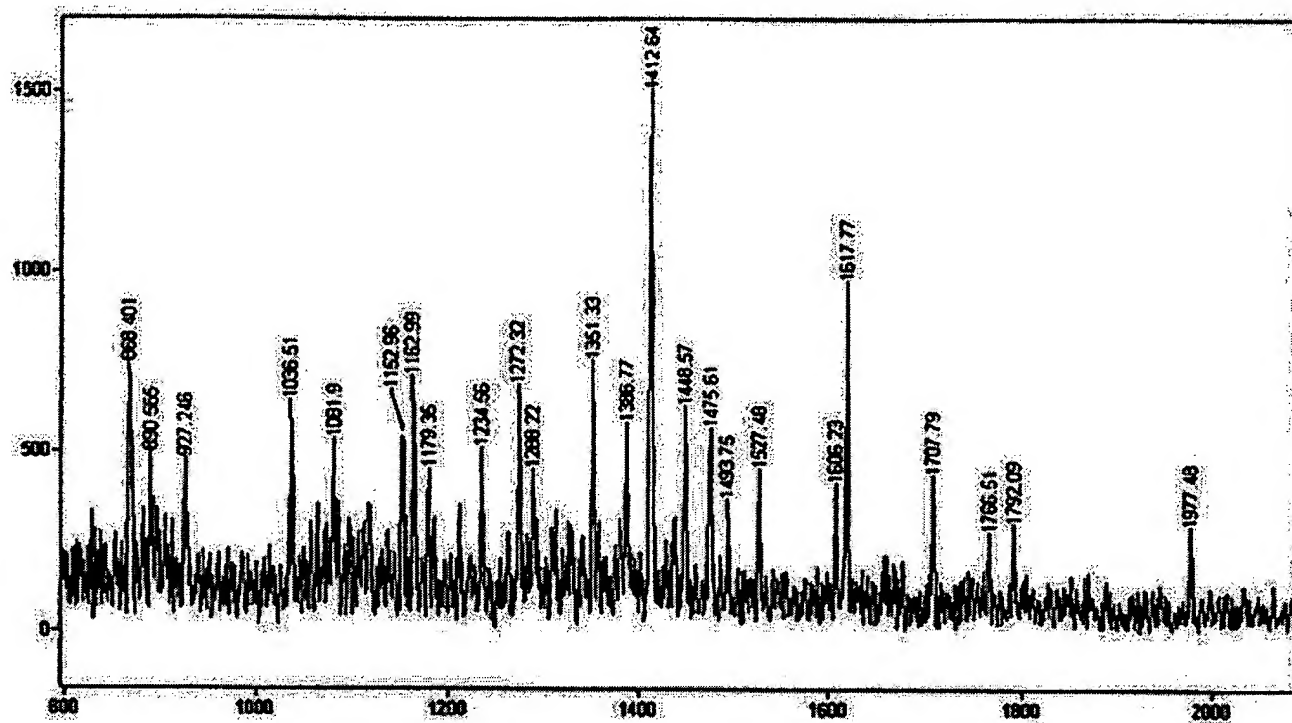


Figure 11

i) Tryptic peptide mass spectrum of interacting protein (1% Triton X-100 elute)



ii) Tryptic peptide mass spectrum of interacting protein (1% SDS eluate)

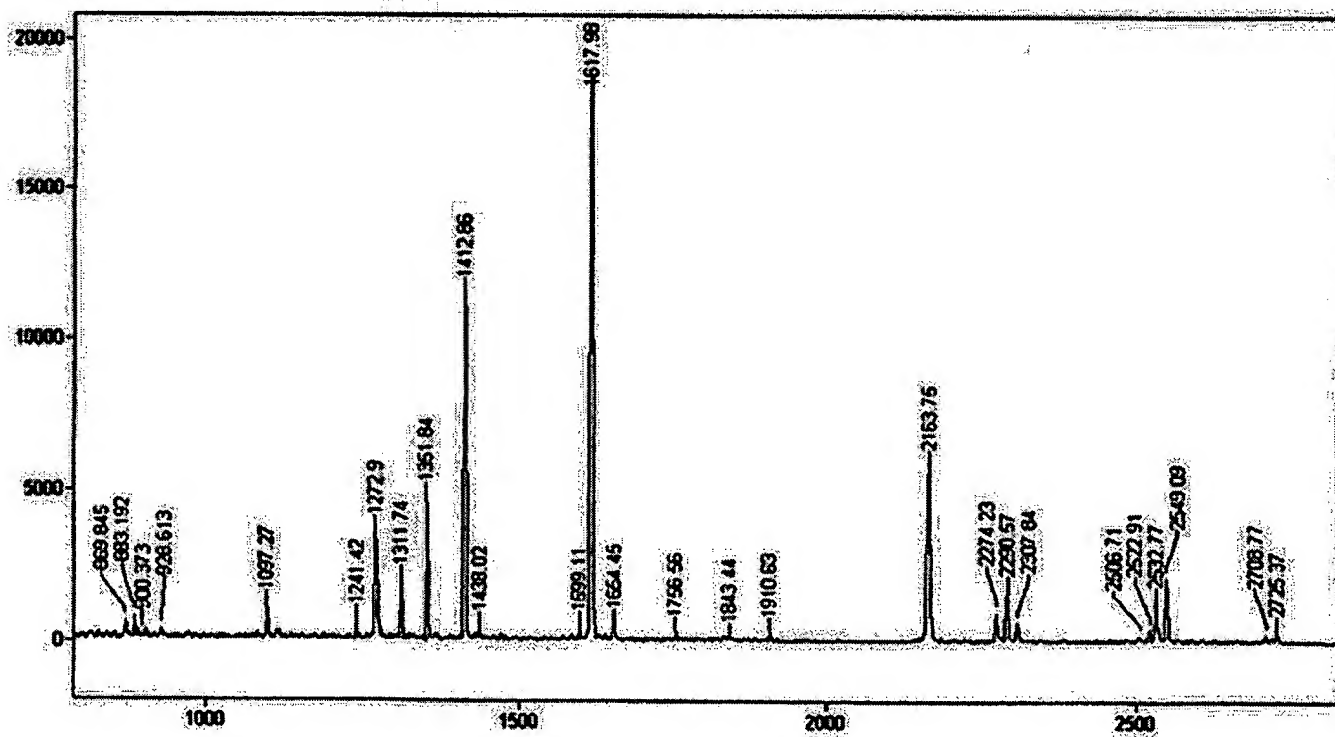


Figure 12

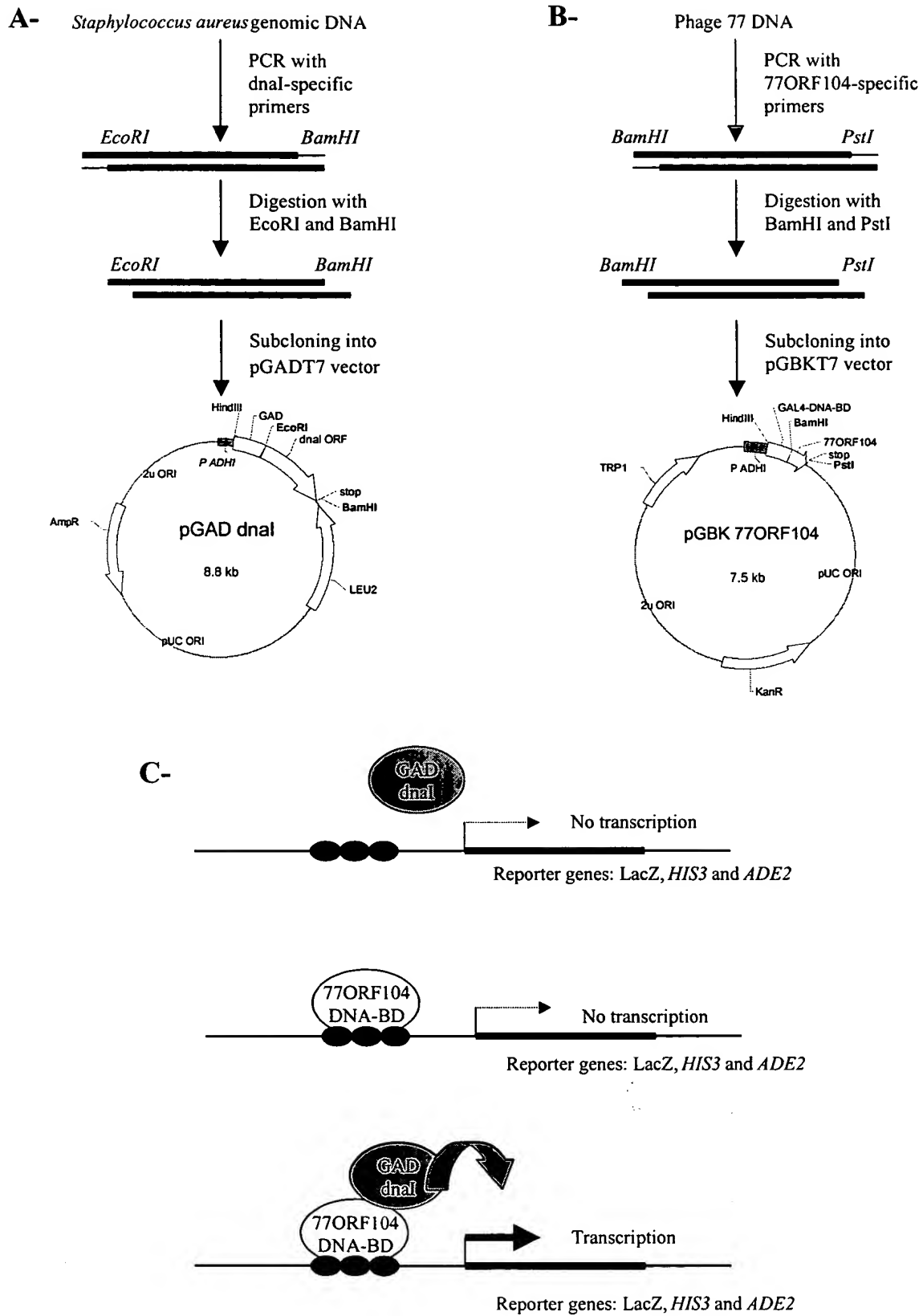


FIGURE 14A

